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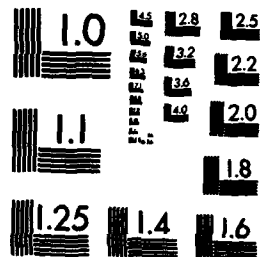
US NAVY CLIMATIC STUDY OF THE MEDITERRANEAN SEA (U)
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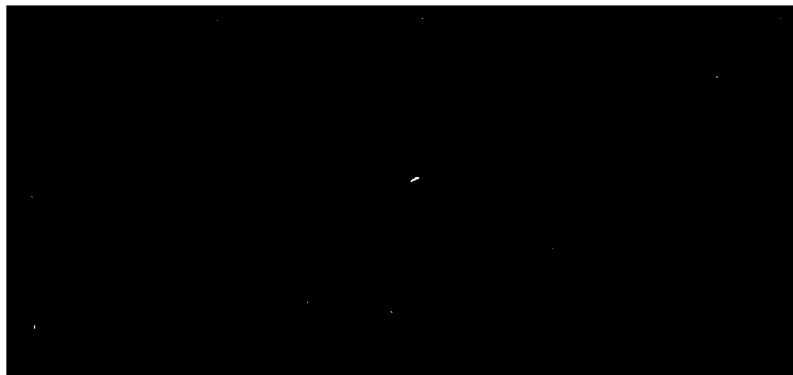
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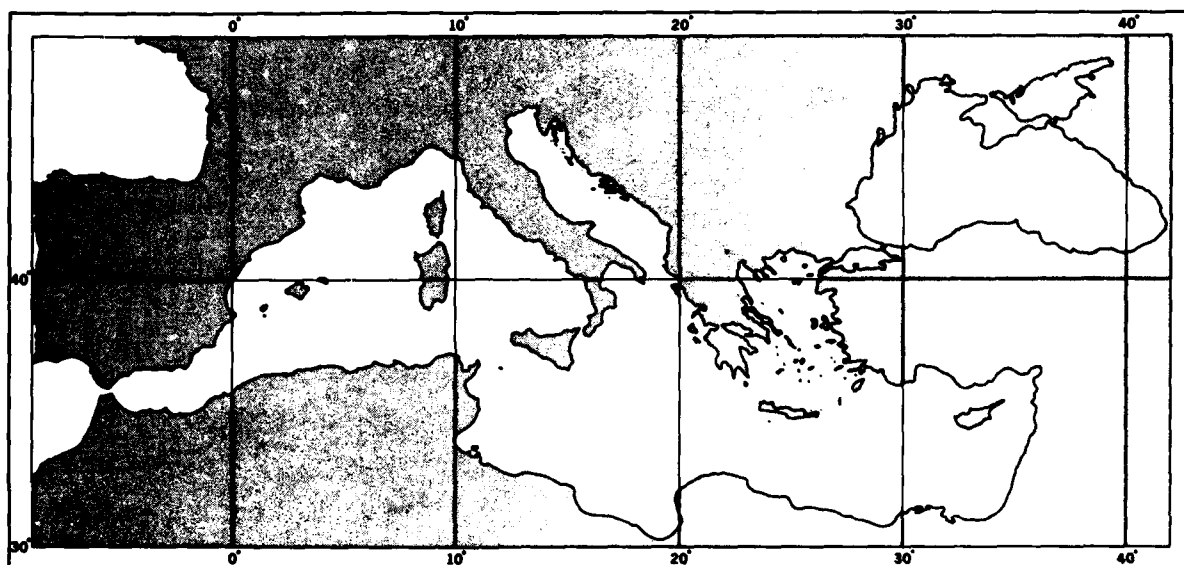


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U.S. NAVY CLIMATIC STUDY OF THE MEDITERRANEAN SEA

JULY 1987



**PREPARED BY
NAVAL OCEANOGRAPHY
COMMAND DETACHMENT,
ASHEVILLE, N.C.**

**PREPARED UNDER
COMMANDER
NAVAL OCEANOGRAPHY COMMAND**
NSTL, MS 39529-5000



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The U. S. Navy Climatic Study of the Mediterranean Sea was prepared under the Commander, Naval Oceanography Command and by the Officer in Charge, Naval Oceanography Command Detachment, Asheville, North Carolina. The work was performed at the National Climatic Data Center (NCDC). Specific acknowledgement of the NCDC staff is made to Mr. J.D. Elms, project leader; Messrs. C.N. Williams Jr. and R. G. Baldwin, and Ms. P. L. Franks for data processing and digital graphics; Mr. S. Roselle for assistance in data analysis; Mr. M. J. Changery and Dr. W. J. Koss for technical review; Messrs. M. G. Burgin, J. L. Thomas and S. J. Miller for drafting skills; and Messrs. G. M. Lammers, D. S. Ezell and H. N. Vigansky for station summary compilations.

Geographical and Data Coverage

This Climatic Study covers the Mediterranean Sea from just west of the Strait of Gibraltar to the Levant Coast, and from North Africa to the Black Sea, with the greatest emphasis being placed on the marine areas (see Fig. 1). Data were too sparse in the Sea of Azov for that area to be included. Surface marine data statistics are presented on monthly charts in the form of graphs, tables, and isopleth maps. Land station data appear graphically in the text and in Station Climatic Summary tables in the last section of the publication. The marine data were machine plotted by one-degree quadrangle, computer analyzed, and those analyses adjusted and smoothed by hand. The graphs and tables for the marine areas are also presented by one-degree quadrangles (for visibility, wave heights, wind roses, and currents). These graphs and tables represent the objective compilation of available data; the data were not adjusted for suspected biases (e.g., low observation count, heavy weighting of observations during a short time interval, biases in coding of observations from various source decks, etc.), hence differences may be found when comparing the graphic data with isopleth analyses. The total number of observations for a given one-degree square should always be considered when interpreting the data, as the number of observations might be insufficient to permit representative statistics.

Over three million surface marine observations were used in computing the statistics. These data, taken from NCDC's Tape Data Family 11(TDF-11), were collected by ships of various registry traveling in the study area. Some observations were collected as early as 1854. Data for this study were obtained from the earliest available period through 1984. The bulk of the observations are from the last 35 years, which is significant because more recent observations contain more meteorological elements than pre-1948 reports. The density of observations is greatest along the major shipping routes; in the Mediterranean Sea, observations are most dense along the east-west axis running from the Strait of Gibraltar to the Suez Canal. Observational counts are also relatively good in most one-degree squares because there are many important ports of call throughout the Mediterranean.

Sea surface current information was extracted from the predecessor to this publication; A Climatic Resume of the Mediterranean Sea (1975). These sea surface current data were obtained from available ships' set and drift measurements. The data file containing these measurements is somewhat deficient in quality and quantity and is currently being updated; however, it was not scheduled for completion in time to be used in this edition. Chart utility is somewhat enhanced, despite the paucity of data, by the fact that the current variability in the Mediterranean Sea is not as great as in many other areas. The basic reason for the relatively small variability is that the Mediterranean Sea produces a water deficit because the evaporation over the basin is much greater than the water gain from rainfall and river flow. This deficit is offset by an inflow of water from the Atlantic Ocean which establishes a relatively consistent east moving surface current (See Fig. 2). Because of the high evaporation rate the water becomes very saline and thus relatively dense. It then sinks and sets up a west moving sub-surface current as the excess of this denser water spills over into the Atlantic. At times local wind conditions may be of sufficient strength to temporarily alter the local surface current circulation.

Physical Features

The Mediterranean basin is rich in human culture. This was especially true during the early Greek and Roman periods when the geographical location and climate of the Mediterranean played a most beneficial part in the progression of human activity, making it known as one of the important "cradles of civilization". For insight into the importance of climate from a historical perspective see Casson (1959) and Grant (1969).

The Mediterranean Sea is an important water body for commerce, being centered with Europe to the north, the African continent to the south, Asia Minor and the Middle East to the east, and the Strait of Gibraltar to the west which provides passage to the Atlantic Ocean and the important ports of northwestern Europe and the Americas. The Mediterranean Sea is approximately 2100 miles long, as measured from the Strait of

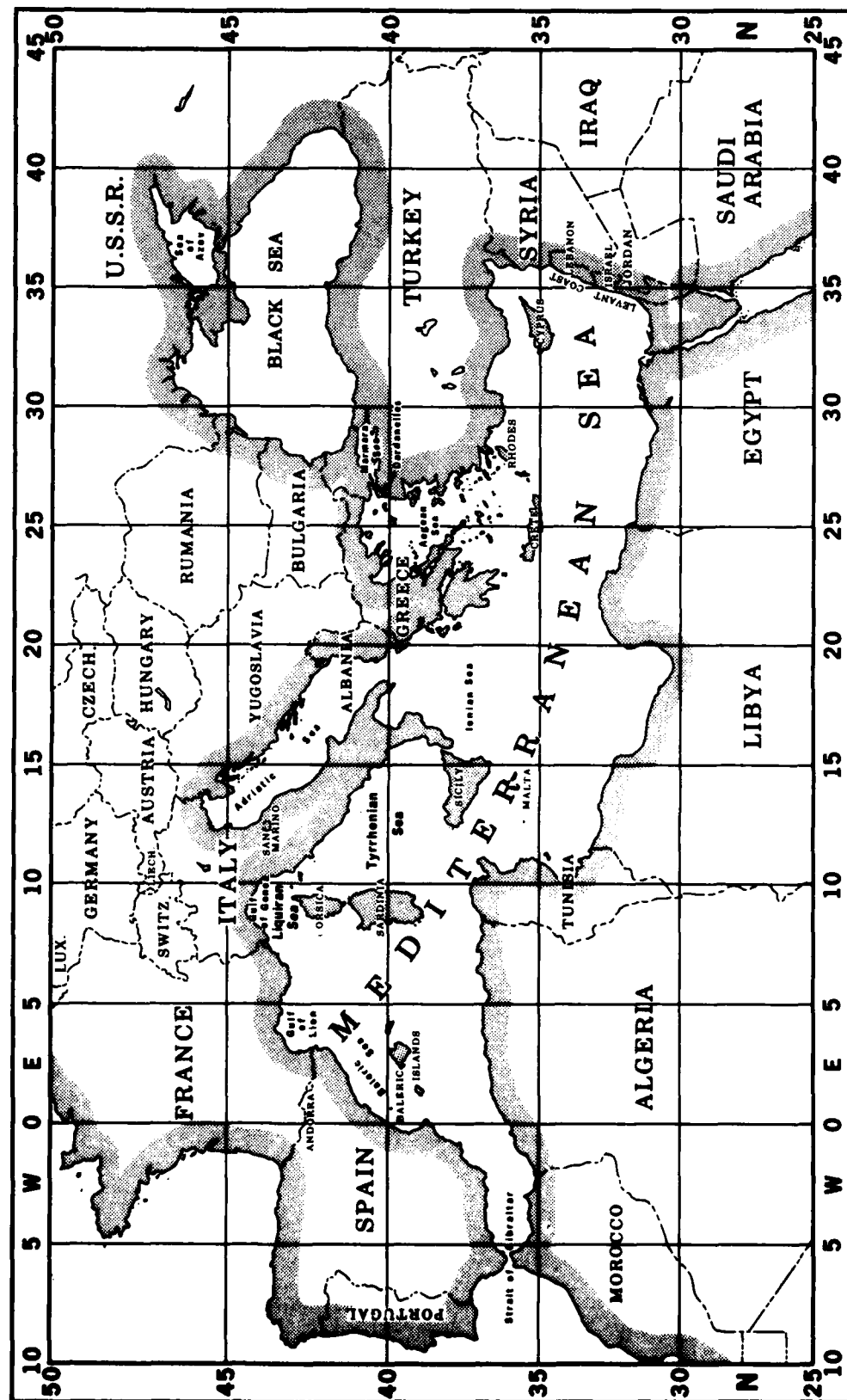


FIG. 1 GEOGRAPHICAL LOCATOR CHART

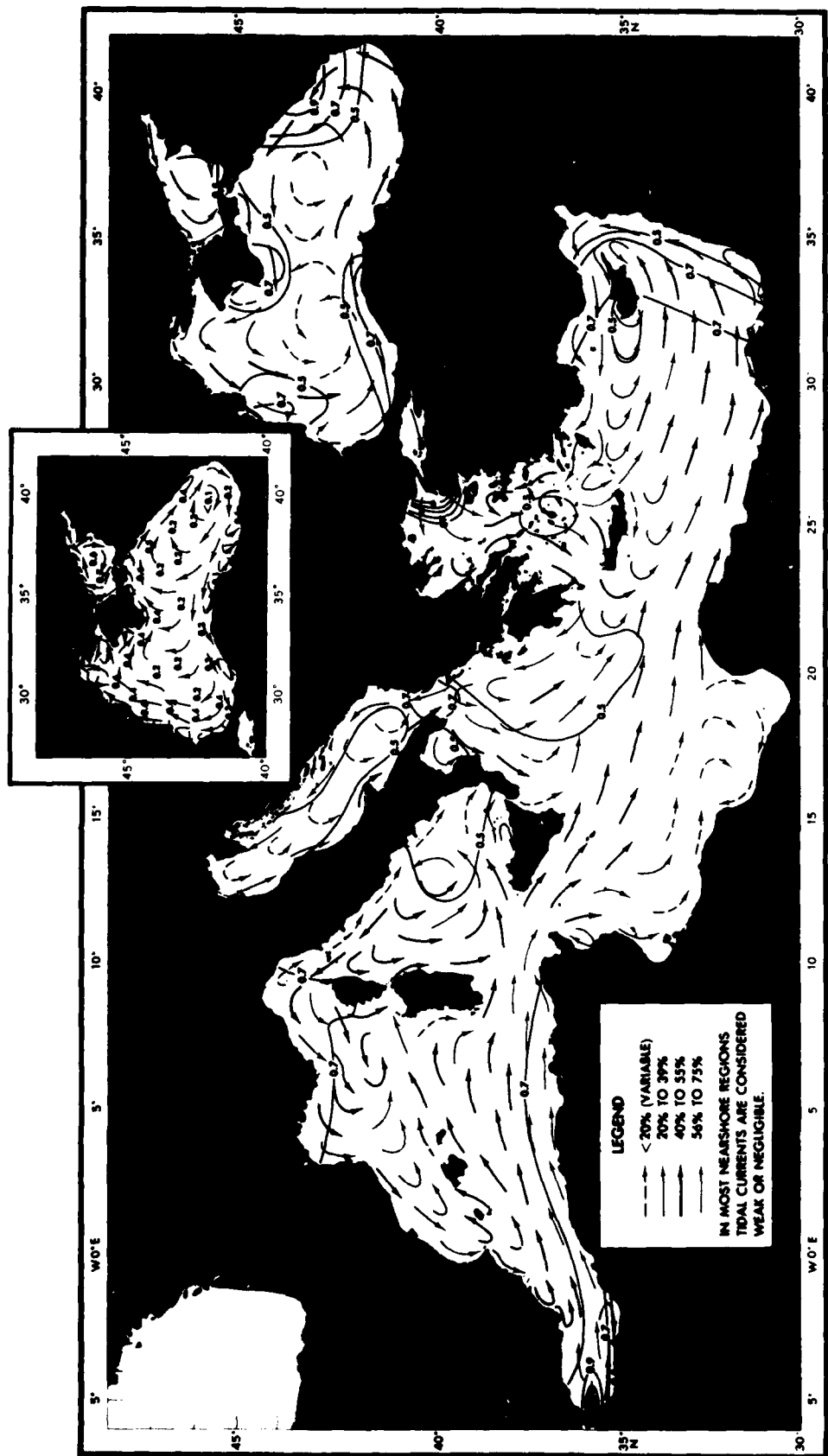


FIG. 2 PREVAILING ANNUAL SURFACE CURRENTS WITH MEAN SPEEDS

Gibraltar to the Lebanon coast and, at its widest point, it is approximately half its length. Numerous smaller seas make up an integral part of the Mediterranean Sea; the Balearic Sea between Spain and the Balearic Islands, Ligurian Sea north of the island of Corsica, Tyrrhenian Sea extending from Corsica and Sardinia east to the Italian peninsula and south to Sicily, the Adriatic Sea between Italy and Yugoslavia, Ionian Sea between southern Italy and Greece, and the Aegean Sea between Greece and Turkey. The Aegean Sea provides passage into the Dardanelles, the Sea of Marmara Deniz, the Istanbul Bosphorus Strait and, finally, the Black Sea. Three important peninsulas jut out into the Mediterranean Sea; the Iberian, Italian, and Balkan peninsulas. Numerous gulfs are also located throughout the Mediterranean, providing adequate harbors for shipping. Two gulfs are especially well known by weather forecasters of the region because of their importance as breeding grounds for cyclogenesis: the Gulf of Lion and the Gulf of Genoa. Many islands are found throughout the Mediterranean Sea, with the greatest concentration being the Greek Islands, which alone number over 1400. The more prominent islands are the Balearic Islands, Corsica, Sardinia, Sicily, Crete, Rhodes and Cyprus (Reference Fig. 1, geographical locator map).

The mountain ranges surrounding the Mediterranean Sea, in particular the Alps, act as a sharp climate barrier protecting the Mediterranean basin from much of the more extreme continental weather conditions (Reference Fig. 3., Topographic Chart). The configuration of the mountains with respect to the Mediterranean basin determines how they act as barriers or affect the channeling of winds down valleys and through gaps. Often winds are strengthened by channeling, or warmed through adiabatic compression when the airflow is downslope.

The greatest single geographical climate control is the Alps, as they act as an extensive barrier to the cold continental air of north central Europe. The highest peaks basically run east to west along the northern rim of the Po Valley with many peaks extending above 12,000 feet. Mount Blanc, located in France near the Swiss-Italian border, is the highest peak at 15,771 feet. This range does extend down through Yugoslavia from a northwest to southeast direction. There they are known as the Dinaric Alps and are much lower than their counterparts that traverse eastern France, Switzerland, Italy and Austria. Because of their lower elevations, generally below 8000 feet, the Adriatic coast experiences colder, more frequent outbreaks of stormy weather during the winter. South of the Po Valley the Apennines extend down the center of the Italian peninsula, with the highest peak reaching just over 9500 feet. To the east, mountainous terrain continues through Greece and Turkey with eighty percent of Greece being covered by mountains and hills. While Turkey is not as mountainous (a large portion of the country is covered by the Anatolian Plateau) it is still crisscrossed by mountain chains in the north and southeastern sections. The Taurus Mountains are inland of the Mediterranean coast bordering the southern rim of the Anatolian Plateau. The headwaters of the Tigris and Euphrates Rivers are found at the eastern edge of the Anatolian Plateau. From here the rivers run southeastward through Syria and Iraq into the Persian Gulf. At the eastern end of the Mediterranean Sea a narrow coastal plain runs along the Levant Coast, with mountain ranges jutting up behind the narrow coastal plain. In Syria the Anti-Lebanon and Ansariyah mountains parallel the coast. In Lebanon, the Lebanese Mountain range has peaks which reach heights of 10,000 feet. They are near the coast with the fertile Bekaa Valley separating them from the Anti-Lebanon Mountains which, as mentioned earlier, extend north into Syria. Continuing into Israel, mountain elevations drop off to where the highest peak found is in the Galilee Mountains at 3930 feet. Crossing North Africa, the topography is best described as a Desert Plateau except for the narrow cultivatable coastal plains east of Tunisia, and the Atlas Mountains which extend across Morocco and northern Algeria. Continuing the loop around the Mediterranean by moving north into Europe from Morocco, we find a large plateau covering most of the Iberian peninsula before reaching the Pyrenees Mountains in the north. The Pyrenees physically separate Spain from France. Completing the circuit of mountain ranges around the Mediterranean, there are the Massif Central Mountains in southeastern France and the rugged Alps of eastern France, which are separated by the Rhone Valley.

Figure 4, shows the bathymetry (water depths in fathoms) of the Mediterranean Sea. The depth of the Mediterranean Sea is relatively shallow with a somewhat level bottom. Water depths reach over 2000 fathoms in a few locations. Those include a few broad areas centered between the Ionian Sea and the Gulf of Sidra, regions southwest of the island of Rhodes, and one area to the southwest of the large Greek island of Peloponnese where depths reach over 2500 fathoms, the greatest in the Mediterranean Sea. Most water depths average over 500 fathoms, except near the coast where depths range under 100 fathoms. Exceptions are found in the Adriatic Sea where the northern two-thirds are less than 100 fathoms with many areas less than 50 fathoms. Along the eastern coast of Tunisia another relatively broad continental shelf region is found with depths of less than 100 fathoms. The Aegean Sea is also another relatively shallow region where depths generally average between 100 and 200 fathoms, except near the numerous islands where depths are considerably less.

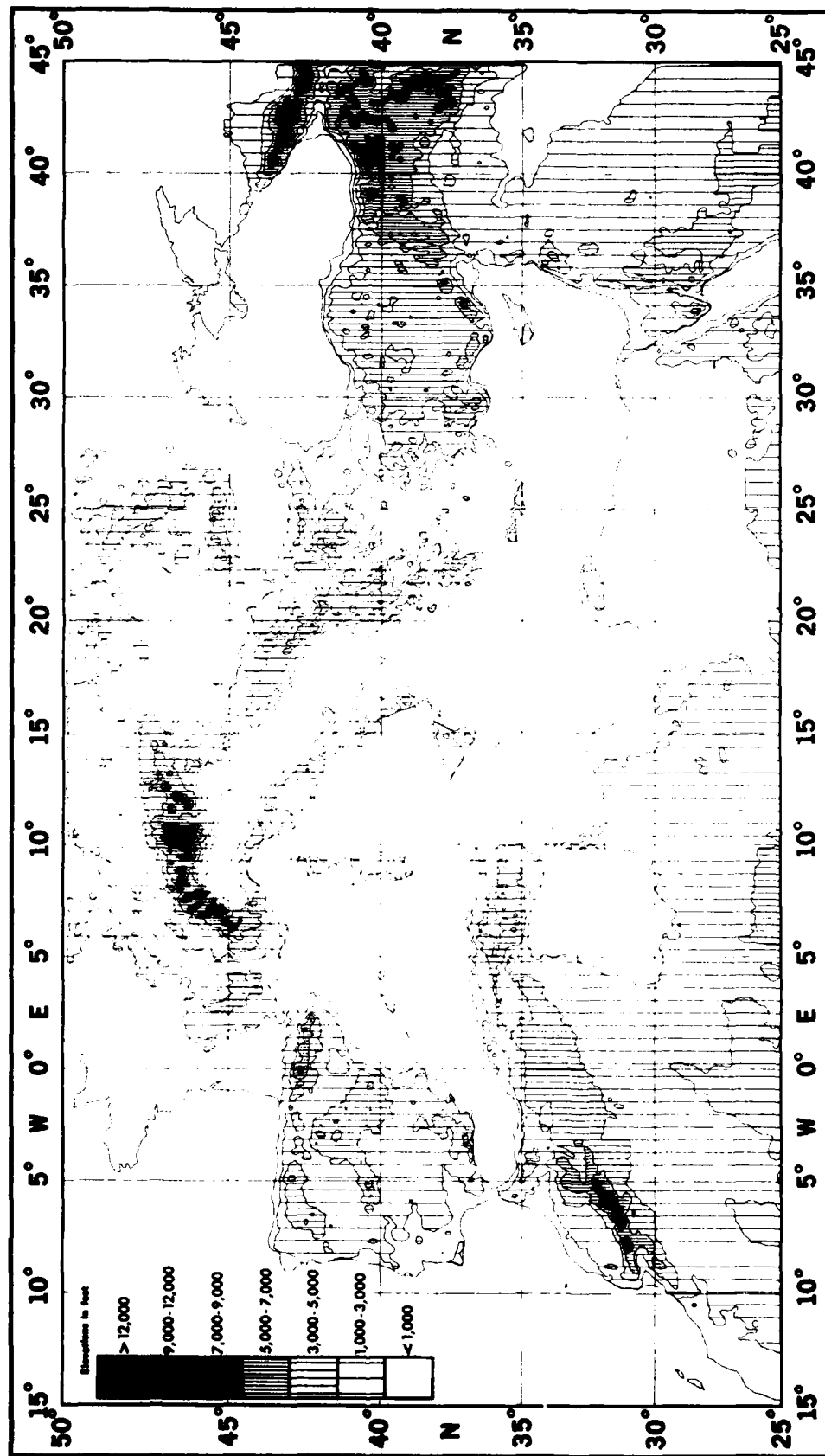


FIG. 3 TOPOGRAPHICAL CHART

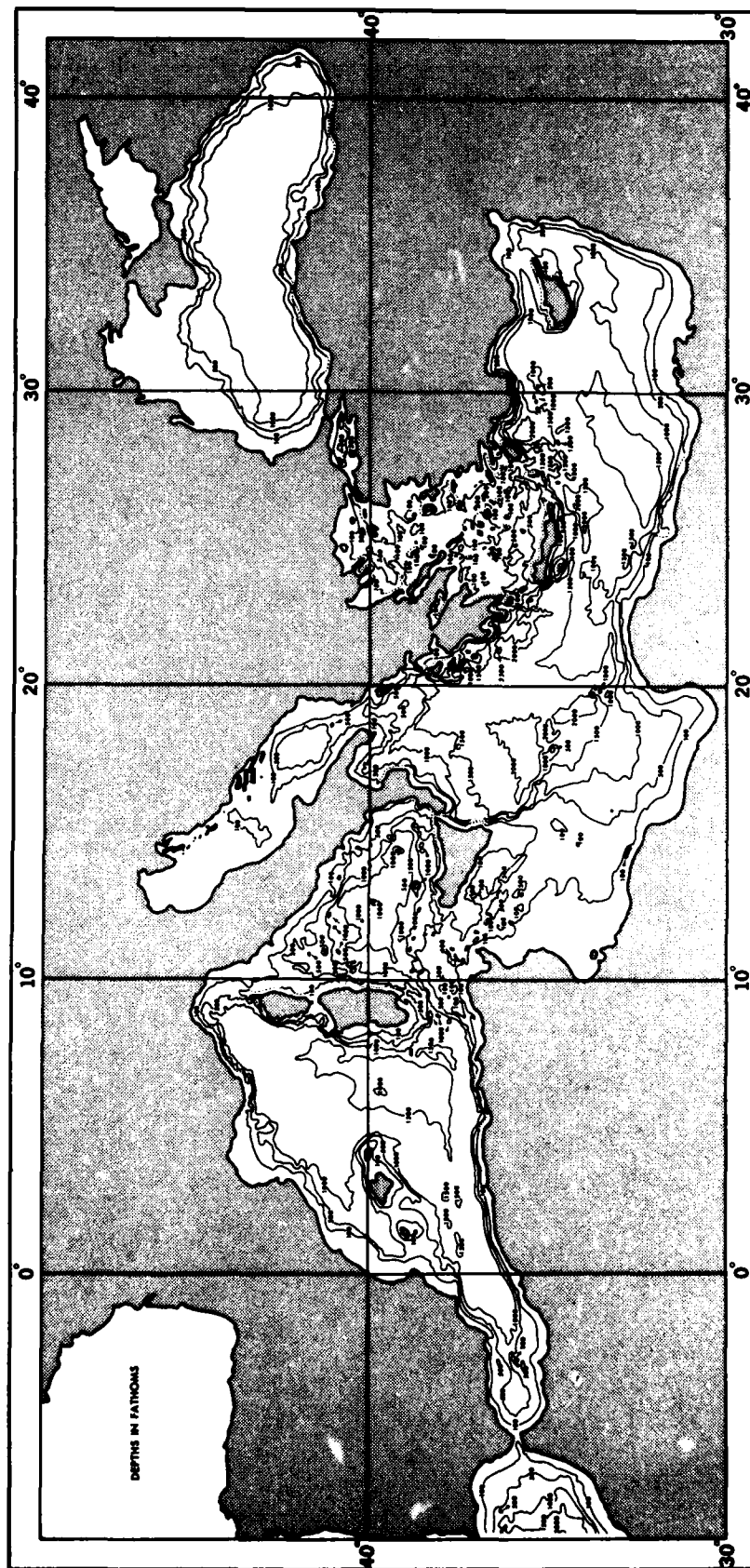


FIG. 4 BATHYMETRY CHART

Tides throughout the Mediterranean Sea are semidiurnal except for several areas in the Adriatic which experience mixed tides. In most areas, the water level is influenced more by the wind than the tide. In general the spring tidal rises range from just a few inches to up to 4 feet. To illustrate the influence of the wind, at Venice, Italy the normal tidal rise and fall is near 3 feet. However, strong southeasterly winds can sometimes cause the water level to rise as much as 6 feet above normal, and a strong northerly wind can cause water levels to fall so low as to reveal mud in the lagoons. Each year, from February through April, the mean sea level in the central Mediterranean tends to drop, often falling as much as 1.5 feet.

A major seismic fault line passes through the Mediterranean, affecting parts of northwestern Africa, Spain, Italy, Yugoslavia, Greece and Turkey. Earthquakes are frequent throughout these regions. Although generally minor, they have been intense enough to cause severe damage and loss of life. Some active volcanoes are also located along the fault line. Mount Etna, located on Sicily, is the largest active volcano in Europe and on the average erupts every 4 to 5 years. Other active volcanoes are located within the Mediterranean basin, but a comprehensive list of the active volcanoes is difficult, because various sources such as the Munich Reinsurance Company (1981), the National Geographical Society (1975) and the Smithsonian Institution (1981 & 1984) disagree as to which are considered active.

Climate

A climate regime characterized by warm to hot summers that are dry and sunny, and mild rainy winters, has become known as the Classical Mediterranean Climate. It is so typified by the climate of the coastal regions and islands of the Mediterranean Sea. In North Africa, east of Tunis, the coastal zone that fits this definition narrows in places to less than 20 miles. The Mediterranean climate is basically opposite to a monsoon climate because it has the annual periodicity of rain in the winter season rather than the summer. Similar climate regimes are found to the east of each of the semi-permanent subtropical highs which appear on global mean pressure charts (Reference Fig. 5). Those other regions of similar climate include the California coast, the southwest corners of South Africa and Australia, and a portion of central Chile. These regions are highlighted in Figure 6 adapted from Goodall (1981). During the summer season (reversed between the northern and southern hemispheres) the subtropical highs increase their influence and, due to subsidence and the resulting stable lapse rate, produce characteristically hot dry summers. The area of influence under the subtropical highs is reduced during the winter, allowing more extratropical cyclone activity, and thereby leading to a rainy season. Areas with Mediterranean climates are especially suitable for fruit production; across the Mediterranean basin there is a high correlation between the distribution of olive trees and those areas that experience such climate characteristics. North Africa east of Tunisia does not, however, have sufficient rainfall (except perhaps for a very narrow coastal strip) to sustain such olive groves and, therefore, is often not considered to have a Classical Mediterranean Climate. For insight into the soil types and plant life of the region, reference Goodall (1981). The subtropical high that influences the general circulation so dramatically over the Mediterranean basin is commonly known as the Azores High. The monthly mean pressure over the Mediterranean Sea varies little during the year, averaging near 1016 millibars during the winter, and in the summer ranging from an average 1008 millibars over the eastern Mediterranean to 1014-1016 millibars over the western sections. The Mediterranean basin is usually wedged between two major mean synoptic pressure features. During the winter they are the Azores high over the Atlantic and the Siberian high over eastern Europe and Asia. During the summer the Azores high strengthens and remains centered over the open Atlantic, while the Siberian high gives way completely to the influence of the strong summer thermal low over Southwestern Asia. This thermal low becomes the engine which drives the intense southwest monsoon over the Arabian Sea.

The maritime influences, and the protection provided by the Alps from the cold continental air masses and the Atlas mountains from the interior heat of the Sahara Desert, help keep the Mediterranean basin's annual temperature range relatively small. Winters are generally mild and summers relatively hot. This can be seen from Figure 7 where monthly means of air temperature and precipitation for selected stations are presented. Monthly mean temperature values increase toward the east and south. In the northwestern section, the mean daily minimum wintertime temperatures average in the mid-30's(°F), while in the southeast corner they average in the high 40's(°F). The corresponding mean daily maximum temperatures range from the low 50's(°F) in the northwestern quadrant to the low 60's(°F) in the south-southeastern sections. During the summer months the average minimum temperatures are near 60°F in the northwestern region and increase to near 70°F in the southeastern sections. At the same time, the average maximum temperatures range from the mid 80's(°F) on the west-northwest side to near 90°F in the south-southeastern sections.

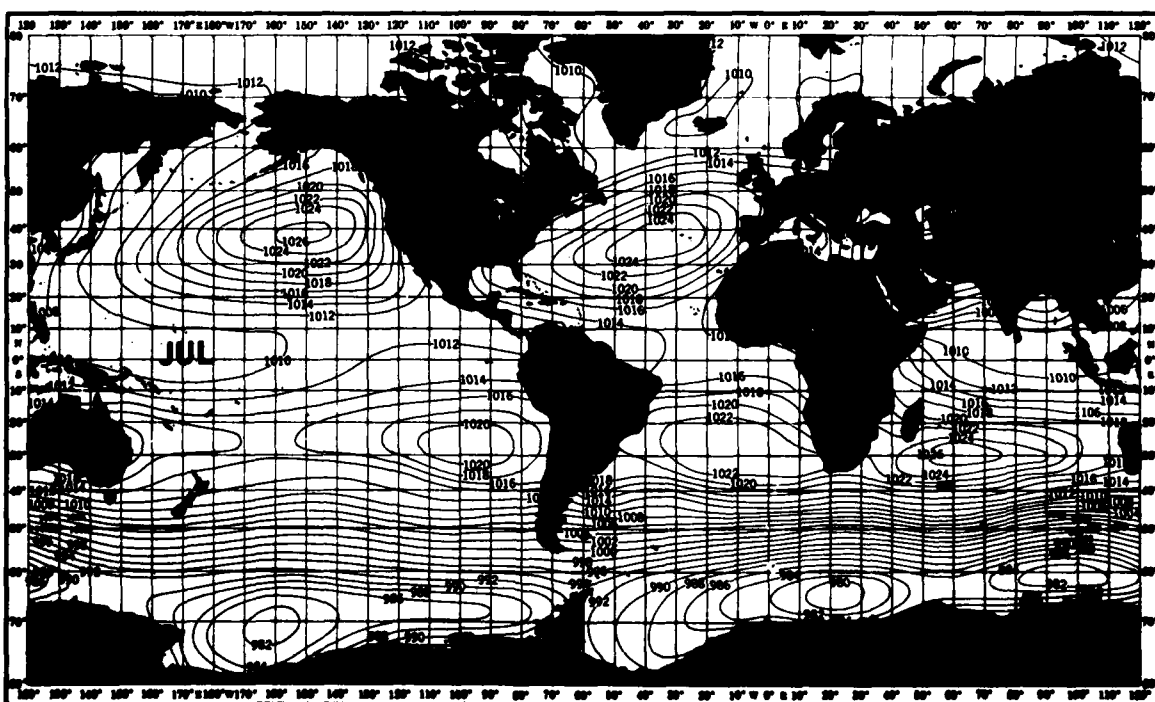
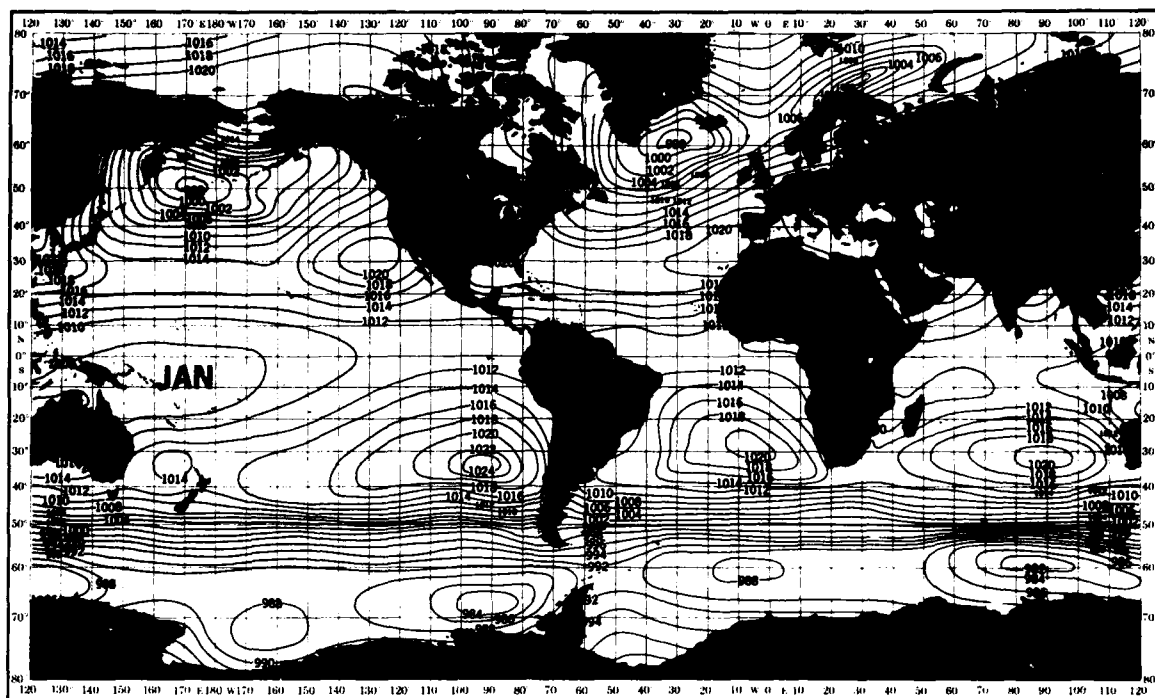


FIG. 5 SEA LEVEL PRESSURE (MBS) - MEANS

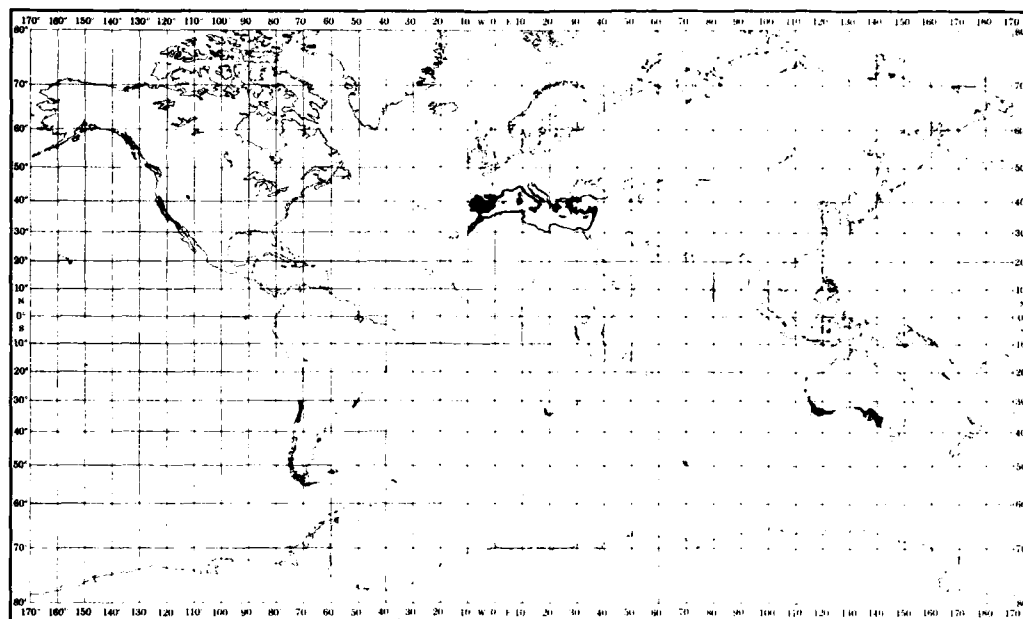


FIG. 6 REGIONS WITH A MEDITERRANEAN CLIMATE

Most of the rainfall across the Mediterranean comes during the winter and is mostly associated with extratropical cyclone activity. In the autumn, however, when the sea surface temperatures are still very warm, instability showers will often occur over land. For rain to occur it is not always necessary to have a surface low. If a sufficiently moist low-level flow is established (usually off the Mediterranean Sea) and an upper-level disturbance is present, rain showers and drizzle will often materialize. These occurrences are harder to forecast because their detection, which is dependent upon the timing of the upper level disturbances, is somewhat more difficult than that of surface lows.

From Figure 7, stations such as Kerkira (Greece), Kyrevia (Cyprus), Algiers (Algeria), and Valletta (Malta) have annual precipitation distributions that fit the Classical Mediterranean Climate definition of dry summers and rainy winters. Eastern Spain and southern France have distributions somewhat different from the typical Mediterranean rainfall patterns in that the dry period is usually very short and not so pronounced (generally in July), and the highest monthly averages occur in the autumn rather than in winter. The rainfall pattern across North Africa, east of Tunis, is dry in the summer and only somewhat wet in the winter, but the mean annual totals are relatively low. For that reason, many meteorological references do not consider the area to have a Classical Mediterranean Climate. In general, it is the one area bordering the Mediterranean Sea which has insufficient rainfall for supporting fruit or shrub tree growth.

The mean annual precipitation totals along the Mediterranean coast range from less than 5 inches in North Africa from Tunisia to the Sinai, to over 80 inches in portions of southwest Turkey and in the eastern Adriatic Sea along the slopes of the Dinaric Alps. Amounts of near 100 inches are found along the southeastern shores of the Black Sea, and to the northeast of the Black Sea along the southern slopes of the Caucasus Mountains. Annual values of less than 12 inches occur along the southeastern coast of Spain. Amounts averaging near 20 inches occur along the coast from there to southern France, except for near 24 inches in the vicinity of the Pyrenees. From eastern France to eastern Turkey values generally range from 28 to 36 inches. Exceptions are those regions along the eastern Adriatic Sea and southwestern Turkey which receive over 80 inches, as highlighted earlier, and along portions of the heel of Italy on the western Adriatic where less than 20 inches a year are received. From coastal Syria to northern Israel values generally range from 24 to 28 inches; however, inland only a short distance the annual amounts drop to less than 5 inches as they are in southern Israel and in the Sinai.

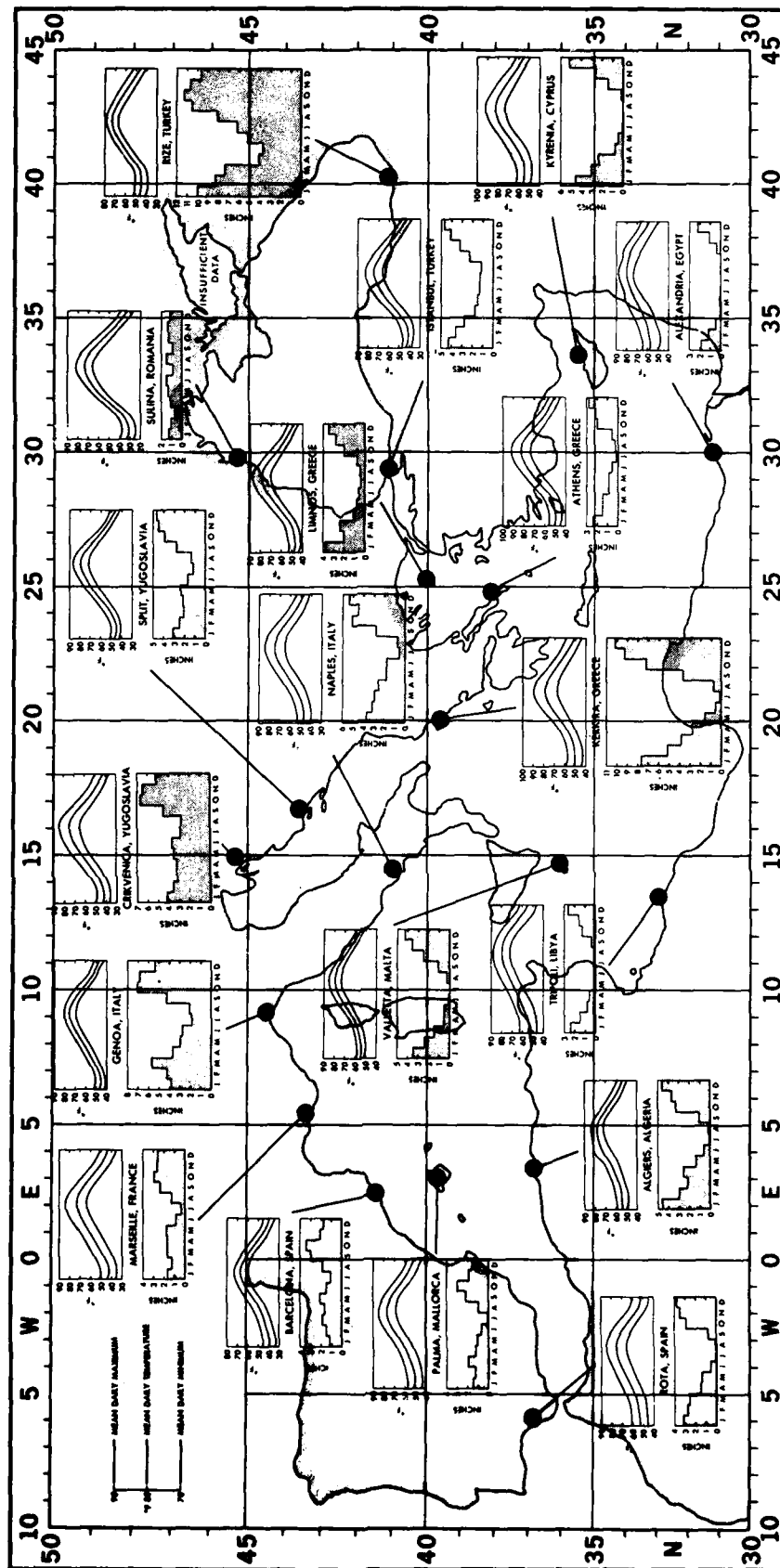


FIG. 7 MONTHLY MEANS OF AIR TEMPERATURE AND PRECIPITATION

Throughout the Mediterranean basin many local winds occur; generally each has been given a local name. Many of these local winds, however, are generated by the same physical effects. The diurnal temperature cycle is responsible for the land and sea breeze regimes as well as the mountain and valley winds. On a typical day, a horizontal temperature gradient is established by the differential heating between the land and sea or the mountains and valleys, thereby generating a local wind. During the diurnal cycle, the horizontal temperature gradient will reverse sign, with a subsequent reversal of wind direction. Along coast lines, incoming solar radiation (insolation) heats the land surface faster than the sea, while at night, the sea cools at a slower rate than the land due to its greater heat capacity. Therefore, during the day, the warmer less dense air is over land, and the cooler more dense air over the water. A circulation pattern is established as the warm air rises over land and the air sinks over water. At the low levels this causes the cooler air to replace the warm air, whereas aloft, the reverse is true, thereby completing the circulation loop. At night the earth radiates energy much more rapidly than the water whereby the sea water becomes warmer than the land and the circulation pattern reverses into a land breeze. Similar dynamic effects are responsible for the mountain and valley winds, but generally the physical processes are much more complicated than those which give a sea breeze.

The monthly wind charts in this volume show a relatively high frequency of strong winds occurring over the Gulf of Lion, especially during the winter and spring. This is the result of a wind called the Mistral: a cold dry katabatic (downslope) wind from the north to northwest that is channeled and strengthened (jet effect) between the mountains (the Pyrenees and western Alps) of the lower Rhone Valley. It often exceeds 50 knots, reaching speeds as high as 75 knots in the lower Rhone Valley, but it rarely exceeds 45 knots at the coast. Further decreases in the wind speed occur over the sea to the south, east, and west. These winds can extend as far south as the Spanish border on the west and the Tyrrhenian Sea on the east.

A Foehn wind can generally be found in almost all mountainous regions. The Foehn is a warm, dry downslope wind on the lee side of a mountain range that can often reach fresh gale force (34 knots) or higher strength. The name originated in the Alps, where it is quite prevalent, occurring mostly with a southerly wind. It is most noted for descending the northern face of a mountain range into a north-south valley that opens onto a plain, or an east-west cross valley, such as at Innsbruck (Austria). On the windward side, the ascending air cools at the moist adiabatic rate with condensation and precipitation occurring. On the lee side, the descending air, having lost its moisture, warms at the dry adiabatic rate, reaching the valley as a warm, dry wind. On rare occasions, a "North Foehn" will effect northern Italy, south of the Alps, mostly in the western portions of the Po Valley. This occurs in combination with a high pressure system north of the Alps and low pressure over northern Italy. East of this region, over the Adriatic Sea and Balkans, the significant local wind is known as the Bora. It is a fall katabatic wind of such cold origin that when it descends the relatively short topographic slope of the Dinaric Alps, the dynamic warming is insufficient and the wind reaches the warm plains or coastal region significantly colder than the environment. The Bora wind is most prominent along the eastern shores of the Adriatic Sea, where wind speeds at Trieste (Italy) have averaged over 70 knots, with gusts exceeding 110 knots. In addition to the strong winds, temperatures have fallen to as low as 14°F and relative humidities to as little as 15 percent.

The Bora winds, when associated only with a high pressure system over central Europe and no opposing low to the south, will generally not extend far out to sea. However, where an opposing low pressure does exist to the south, such as one producing a warm Sirocco (or Scirocco—a Foehn type wind defined below), the warm southerly wind will generally rise aloft over the Bora, producing cloudy skies and some precipitation. Under these circumstances, the Bora winds will most likely extend out over the entire Adriatic Sea. The term Bora also applies to winds of similar origin that are observed at Novorossiysk (U.S.S.R.) on the northern shores of the Black Sea.

As depressions move from west to east across the southern Mediterranean Sea or North Africa, they produce the warm southerly or southeasterly wind in advance of their movement known as the Sirocco. This source of air comes from the Sahara and, as a desert wind, it is dry and often laden with sand and dust. Additional warming occurs through adiabatic compression as the air descends from the desert plateau to the Mediterranean coast. As the Sirocco crosses the Mediterranean Sea, the air picks up moisture and reaches Malta, Sicily, Italy and other parts of the European Mediterranean coast as a warm, moisture-laden wind. Across the Mediterranean basin, the Sirocco is known by many names; in Egypt and over the Red Sea, it is called Khamsin; in the coastal plains of Libya, as Ghibli; in Syria and the deserts of Arabia, as Simoom (poison wind); and along the southeast coast of Spain, as Solano or Leveche. These are only a few of the local names and spellings used to describe wind of desert origin. For more about the local winds of the Mediterranean basin reference Reiter (1975).

Marine Climatological Elements

Precipitation

Of the elements recorded in the marine data base, precipitation is the one most subject to error in both the way it is observed and the way it is interpreted. For example, it is often inferred in the literature that ships often try to avoid foul weather and thereby bias the data towards fair weather with fewer precipitation observations. (Elms (1986) compared the Volunteer Observing Ship (VOS) data to other sources of data such as Ocean Station Vessel (OSV) and buoy data and concluded that there is little evidence that "fair weather bias" is a serious problem for most applications of marine climatic data. The 1982 international code change introduced a present weather indicator (ix) into the Ship Synoptic code FM13-VII and this change will probably be shown to bias the present weather categories more than any foul weather avoidance by ships. This is especially true between January 1982 and March 1985, if the data are not corrected for the missing ix code in the DMT exchange format.)

Assessing oceanic rainfall data is a major problem because transit ships are unable to take quantitative precipitation measurements. A number of studies have been conducted in efforts to predict precipitation amounts, or rates of fall, based on estimates derived from the use of present weather observations from ships of opportunity (Goroch, et al., 1984) and readings from satellites (Rao, et al., 1976).

Throughout the Mediterranean basin, the percent frequency of precipitation is low. Yet, from the percent frequency of precipitation charts, it is easy to distinguish the classical, wet winter season from that of the dry summer one. During the summer, many areas around the Mediterranean Sea experience precipitation less than one percent of the time; this is especially true in the eastern half. In other sections, observed frequencies rarely exceed two to three percent. While winter brings a significant increase in the frequency of precipitation, especially for the eastern sections, frequencies are still below 10 percent. Slightly higher frequencies are observed in the Black Sea. During the winter, the driest region over the sea is along the eastern Iberian peninsula, where frequencies of reported precipitation average only 3 to 4 percent.

Air Temperature

Air temperature is one of the elements most frequently observed by mariners. On many ships the heating effect of the ship's structure has a tendency to produce higher than actual ambient air temperature readings because of instrument exposure. This is especially true under calm sunny conditions.

From September to April, the mean air temperature pattern is relatively zonal as temperatures increase from north to south. In January and February, average temperatures range from the mid-to-high 40's(°F) along the northern Mediterranean shores to near 60°F along the North African coast. At the height of winter in the Black Sea, mean air temperatures range from the mid 30's(°F) along the northern shores to the mid 40's(°F) along the southern shores.

By summer, the temperature pattern is somewhere between zonal and meridional with the average temperatures ranging from the upper 60's(°F) in the northwestern corner of the Mediterranean Sea to the mid 70's(°F) in the eastern end. Average temperatures during this time range from the upper 60's(°F) to the lower 70's(°F) across the Black Sea.

Sea-Surface Temperature

Sea-surface temperatures are recorded with a fairly high frequency in marine observations. The principle methods for sampling are intake thermometers and buckets. Even though the two methods can produce slightly different results, the data can be used with considerable confidence.

During winter the mean sea-surface temperature pattern never acquires the look of the strong zonal pattern characteristic of the mean air temperature. In fact its winter pattern more closely resembles the summer pattern of the mean air temperature. The summer pattern of mean sea-surface temperatures maintains a similarity to its wintertime pattern as the temperature values basically increase from their lowest values in the northwest corner to the highest in the eastern end. The summer season does introduce some anomalies to the pattern as cold regions are established at the Strait of Gibraltar and in the Aegean Sea.

During winter, temperatures range from the low to mid 50's(°F) in the Gulf of Lion and northern Adriatic Sea to the low 60's(°F) in the southeastern sections. Meanwhile, in the Black Sea, wintertime mean sea temperatures range from the low 40's(°F) in the northwest to the upper 40's(°F) and low 50's(°F) in the southeast. During summer, temperatures range from the low 70's(°F) in the northwestern Mediterranean Sea to the low 80's(°F) along its eastern edge. Those sea temperatures observed in the Black Sea at this time average near the mid 70's(°F).

Surface Winds

Surface wind is one of the most commonly observed elements. Many of the observations from the NCDC data base are visual observations based on the roughness of the sea. In recent years more ships acquired anemometers and reported measured winds. Prior to 1963 many of the wind speeds were recorded in the Beaufort scale; such estimates have proven to be quite reliable and can be used with a high degree of confidence. Five sets of wind speed isopleths are presented: the mean speed, and the percent frequency of winds less than 11 knots, from 11 to 21 knots, from 22 to 33 knots, and greater than or equal to 34 knots. Also presented are wind roses for one-degree squares.

Due to the varied topography surrounding the Mediterranean Sea many local winds are generated and influenced by surface features. The details of local winds have been discussed in some detail earlier, therefore when one examines the mean wind charts one is not surprised to see very non-uniform patterns which were directly affected by the adjacent topography. The mean wind speed isopleths highlight the channeling effects of the Rhone Valley over the Gulf of Lion, the blocking effect of the Balearic Islands, the influences of the Strait of Gibraltar, the Strait of Bonifacio between Corsica and Sardinia, the Strait of Messina between Sicily and Italy, and the effects of topography on the Adriatic and Aegean Seas.

Winter is known for increased extratropical cyclone activity, as the wet season, and as the season of strongest winds. Mean winds are strongest over the Gulf of Lion during January, where mean winds exceed 22 knots near the French coast and decrease to only 14 to 15 knots at the African coast. During January, the lightest winds are observed along the Iberian peninsula and in the northern Adriatic Sea. Over the western Mediterranean, the mean summer wind pattern is similar to that of winter but with much lower speeds. For instance, the mean speeds over the Gulf of Lion are nearly half their winter strengths as they average just over 12 knots near the coast of France. In the eastern Mediterranean, near the island of Rhodes, winds speeds have strengthened during the summer as winds average just over 18 knots during August, some 4 to 5 knots higher than their wintertime values. Across the Black Sea wind speeds average 10 to 15 knots during the winter and 6 to 10 knots during the summer.

Gale force winds (>34 knots) are mostly confined to the winter season and to the Gulf of Lion area. During January, frequencies as high as 20 percent are found in the Gulf of Lion and frequencies of just over 5 percent in a few areas of the central Mediterranean. By May there are no areas reporting gale force winds with frequencies of 5 percent or more. This continues until September when in the Gulf of Lion, observed frequencies again appear at just over 5 percent. For most areas between May and September, gale force winds are observed less than one percent of the time. In the Gulf of Lion the percentages increase each month from September until January when they reach their maximum.

Wind speeds of 10 knots or less are observed less frequently over the Gulf of Lion during the winter than over any other region of the Mediterranean Sea; there frequencies average less than 30 to 40 percent. Similar wintertime frequencies are also observed over the northwestern section of the Black Sea. Most open water regions during the winter experience wind speeds of 10 knots or less 40 to 50 percent of the time, while a number of the near coastal regions report frequencies of near 60 to 70 percent. By mid-to-late summer, light winds (10 knots or less) are observed least over the region between Crete and southwest Turkey where frequencies are less than 30 percent. Correspondingly, frequencies over the Gulf of Lion average under 60 percent, and frequencies over most remaining regions average 70 to 80 percent except for over the northwestern Black Sea where frequencies average just under 60 percent.

From October through April, 30 to 40 percent of the observed winds across the Mediterranean Sea are between 11 and 21 knots. By May frequencies generally average 20 to 30 percent except for a small region southeast of Rhodes where frequencies are 40 percent. Frequencies remain near 20 to 30 percent for the western Mediterranean until autumn; however in the eastern Mediterranean, especially off the southwest coast of Turkey, frequencies generally average 40 to 50 percent until October. August brings the highest frequencies of these wind speeds (11 to 21 knots) to the area off the southwest coast of Turkey where they reach 60 percent.

During the winter, speeds of 22 to 33 knots are observed as much as 30 percent of the time over the Gulf of Lion and generally 10 to 20 percent over most other sections of the Mediterranean Sea. In the summer, west of the Balkan Peninsula winds of those speeds are generally observed 5 percent or less of the time, except over the Gulf of Lion where frequencies exceed 10 percent. East of the Balkan Peninsula, frequencies increase during the summer to as high as 15 to 25 percent between Crete and the southwest coast of Turkey.

Visibility

Visibilities are difficult to measure at sea because of the lack of distance reference points. Climatically, many low visibility observations are probably missed because the observer is too busy with other duties (a form of fair weather bias). However, the coarseness of the visibility (code) intervals tends to minimize the problem, thereby permitting the summarized data to be relatively consistent.

Visibility tables are presented by one-degree quadrangle. From the tables it is clear that visibilities are generally good throughout the Mediterranean basin with visibilities averaging five nautical miles or better at least 90 percent of the time, regardless of month. Percentages generally are slightly less in the Black Sea than they are across the Mediterranean Sea. Visibilities of 10 miles or better occur 60 to 70 percent of the time and low visibilities (less than one mile) usually occur less than one percent of the time.

Clouds

A survey of the cloud data (total and low cloud amounts) from the marine data base shows the number of total cloud reports significantly greater than that of low cloud amounts. This is because many of the early marine observations contain only total cloud amounts. For the two presentations (total cloud amount $\leq 2/8$ and low cloud amounts $\geq 5/8$), only those observations reporting both total and low cloud amounts were summarized. This helps eliminate problems introduced as a result of different size data sets (N-count). The use of satellite data helps bolster confidence in the total cloud analyses because they show fairly close agreement with those analyses (U. S. Department of Commerce and United States Air Force, 1971).

The percent frequency of low clouds greater than or equal to five-eighths increases from a minimum during the summer (the dry season) to a maximum during the winter (the wet season). Summer frequencies range from less than ten percent in most areas of the Mediterranean to just over 20 percent in a few areas. By winter, frequencies have increased to 30 to 40 percent across most regions of the Mediterranean Sea. Frequencies over the Black Sea always run somewhat higher than the general Mediterranean basin, averaging 50 to 70 percent during January and as low as 15 to 20 percent during July.

Total cloud amounts naturally follow the same annual cycle between the dry and wet seasons showing less total cloud during the summer than the winter. Total clouds less than or equal to two-eighths are observed 60 to 70 percent of the time across the western Mediterranean and Black Sea, and 80 to 90 percent of the time in the eastern Mediterranean during July and August. Occurrences of total clouds $\leq 2/8$ decrease over the months from their peak (relatively clear skies) in the summer season to an ebb (relatively cloudy skies) at the height of winter, where frequencies of 20 to 30 percent are observed over the Black Sea and 30 to 50 percent across the Mediterranean basin.

Ceiling and Visibility

Aircraft-type ceilings are not available from marine observations. The ceilings are estimated from the height of the lowest cloud when low clouds cover more than half the sky. When the sky is totally obscured by rain, fog, dust, or other phenomena, the total obscuration is considered a ceiling with a height of zero. Mid-range ceiling and visibility charts (ceiling less than 1,000 feet and/or visibility less than 5 nautical miles; ceiling less than 8,000 feet and/or visibility less than 10 nautical miles) and low-range ceiling and visibility charts (ceilings less than 300 feet and/or visibility less than 1 nautical mile; ceiling less than 600 feet and/or visibility less than 2 nautical miles) are presented.

During winter, ceilings less than 8,000 feet and/or visibilities less than 10 nautical miles are observed nearly 40 percent of the time across the southern Mediterranean basin and near 70 percent in the northern sections including most of the Black Sea. During the dry summer season, conditions improve somewhat as frequencies range from 20 to 30 percent in the southern sections to 40 to 50 percent in the northern sections.

Ceilings less than 1,000 feet and/or visibilities less than 5 nautical miles (the next lower threshold examined) generally average 5 to 10 percent throughout the year. Frequencies extend above 20 percent in a few sections, especially in the Black Sea during the winter. Throughout the year there is little change at these thresholds over the western Mediterranean Sea; however, over the eastern Mediterranean frequencies follow a more cyclical seasonal pattern with averages running near 10 percent during the winter and less than 5 percent during the summer.

Conditions rarely deteriorate into the lowest two threshold categories examined. During the winter, ceilings less than 600 feet and/or visibilities less than 2 nautical miles occur only two to three percent of the time across most of the Mediterranean. Frequencies reach 5 percent in the northern Adriatic and northeastern Aegean Sea and 8 percent in the Black Sea. By summer, frequencies average two percent or less throughout the study area. For the lowest category (300 feet and/or 1 mile), frequencies generally average below one to two percent regardless of the season. The exception is in the Black Sea where frequencies exceed 6 percent along its northern shores during April.

Wave-Heights

Wave-heights have been recorded in a consistent quantitative code only since the late 1940's. The reluctance of many observers to take wave observations in the earlier years and the difficulty in estimating waves, especially in confused seas, make wave observations one of the least commonly observed elements. The observations are also subject to biases. Generally the heights are too low, the periods too short, and the sea-swell discrimination poor (Quayle, 1980). The data in this study have not been adjusted for the suspected biases but they were processed through a quality control procedure where an internal check was made between wind speed and sea height. The data were also matrix-arrayed and apparent erroneous outliers were deleted from both the sea and swell data. Wave-height presentations include isopleth maps showing percent frequencies of wave-heights ≥ 3 feet and ≥ 8 feet. In addition, wave-height tables by one-degree quadrangle show frequencies by six wave-height categories. In these presentations, the higher of the sea or swell was selected for summarization. If heights were equal, the wave with the longer period was selected.

Wave-height patterns across the Mediterranean Sea align very closely to local winds, available fetch, water depth and nearness of barriers. These factors make the pattern relatively complex, yet at same time, limit the size and intensity of the wave regime.

Wave-heights of three feet or higher are observed over 80 percent of the time during the winter in the Gulf of Lion and in the east central Mediterranean Sea. During the same period, wave heights of this magnitude are observed only 30 to 50 percent of the time in the northern Adriatic Sea and 50 to 60 percent in the Balearic, Aegean, and Black Seas. Summer brings a drop in the frequency of 3 foot waves or higher by 20 to 30 percent in all areas except in the eastern Mediterranean between Crete and Cyprus, where they remain near 70 percent.

Wave heights of eight feet or greater occur mostly in the open waters, centered along a line that runs from the Gulf of Lion to the south of Sardinia, Sicily, and Crete. During the winter, wave heights of eight feet or greater are observed 20 to 30 percent of the time in this basically open water region, and 10 to 20 percent in most other regions. Exceptions are in the Adriatic Sea and near coastal regions of Europe where frequencies average less than 10 percent. By summer, waves of eight feet or higher are much less likely to occur. Only in the Gulf of Lion and in an area to the east of Crete do frequencies exceed 10 percent.

Ocean Currents

The ocean current charts were compiled from ship drift reports that were forwarded by the various merchant marines to the U.S. Naval Oceanographic Office. From those drift observations the prevailing and secondary current directions, mean current speed, percent of total observations used to compute the primary and secondary directions and the total observation count are presented by one-degree square. This information is presented on monthly charts with the Mediterranean basin being divided into four sections (pages) to ensure readability. The density of the observations is greatest along the major shipping routes and the reliability of the current charts is best in those areas. The data are considered most useful when used collectively such as in summaries where a large number of observations are available.

Summary

Mild wet winters and dry summers with moderate temperatures make the Mediterranean climate a favorite with man. This favorable climate was instrumental in the blossoming of so many of the early great cultures (Greek, Babylonian, Phoenician, Roman, Egyptian, Venetian, etc.) that proved so influential in the civilization of the world. Topography, latitude, and the relationship of land to water all influence the Mediterranean basin climate.

Significant climatic variations occur within the limiting boundaries of the classical definition of the Mediterranean climate. For example, mean annual precipitation totals range from 50 inches and up in some of the near coastal regions of Yugoslavia, western Italy, and southwestern Turkey to 16 inches and less in southeastern Spain, southern Sicily, southeastern Italy and northern Africa. Local winds can be damaging, and their strength and directional persistence often affect the plant life and construction practices of an area because they are forced to adapt to those aspects of climate. There is little destruction from, or fear for, the perils of weather within the Mediterranean basin because that region is unaffected by tropical storms or severe freezes, and is rarely affected by tornadoes or torrential floods. Seismic activity has proven to be the greatest risk to the peoples of the region.

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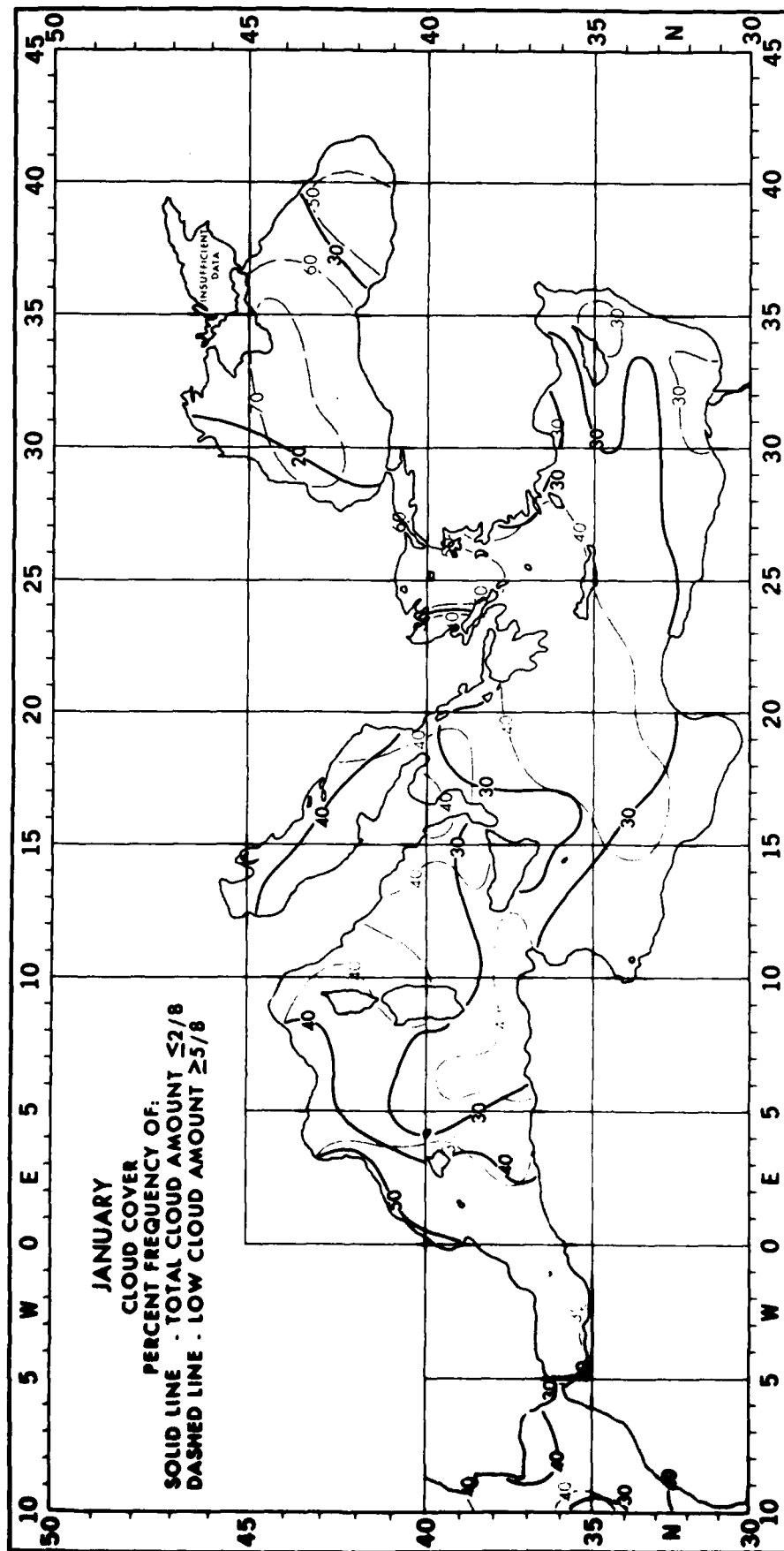
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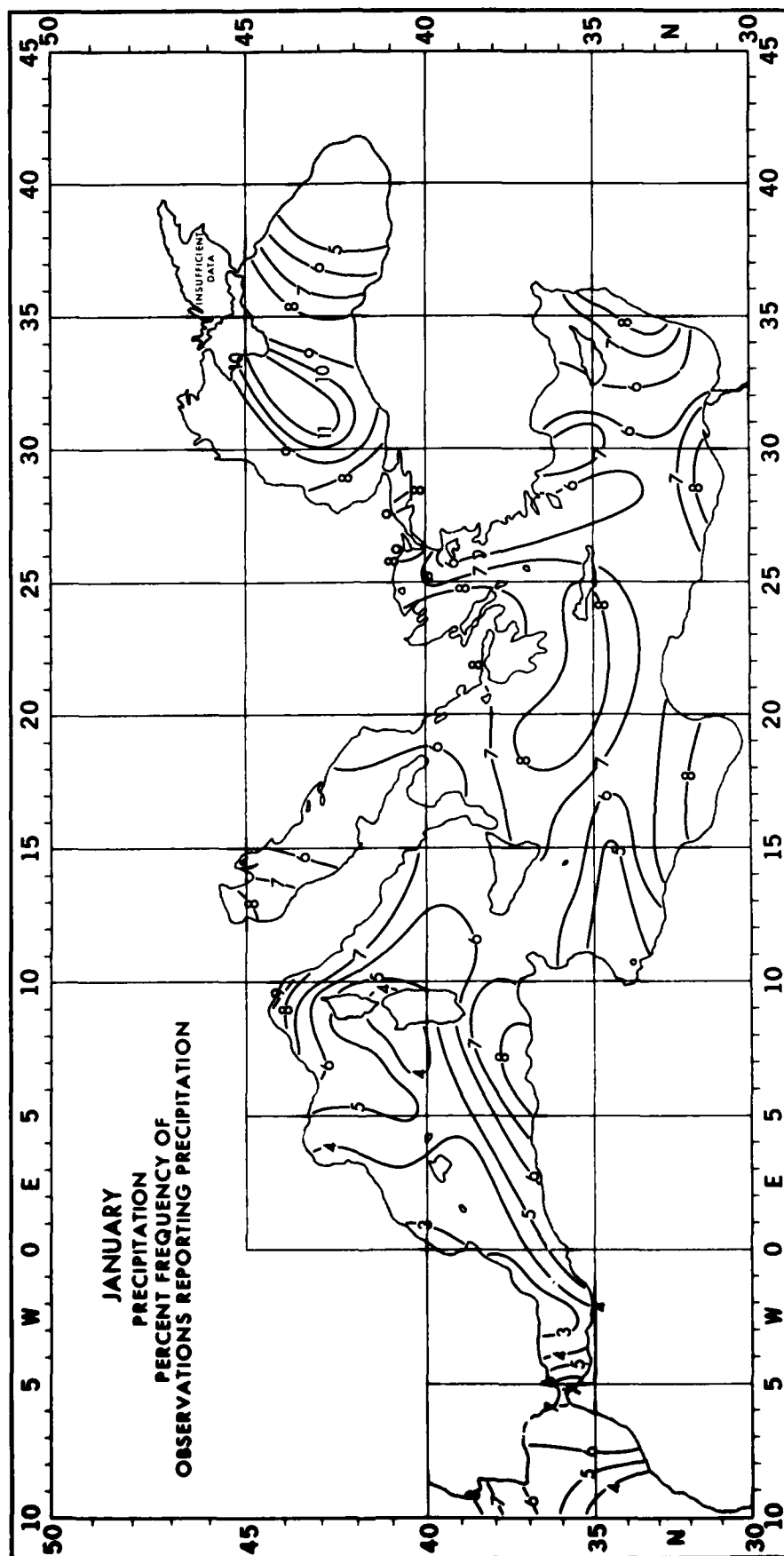
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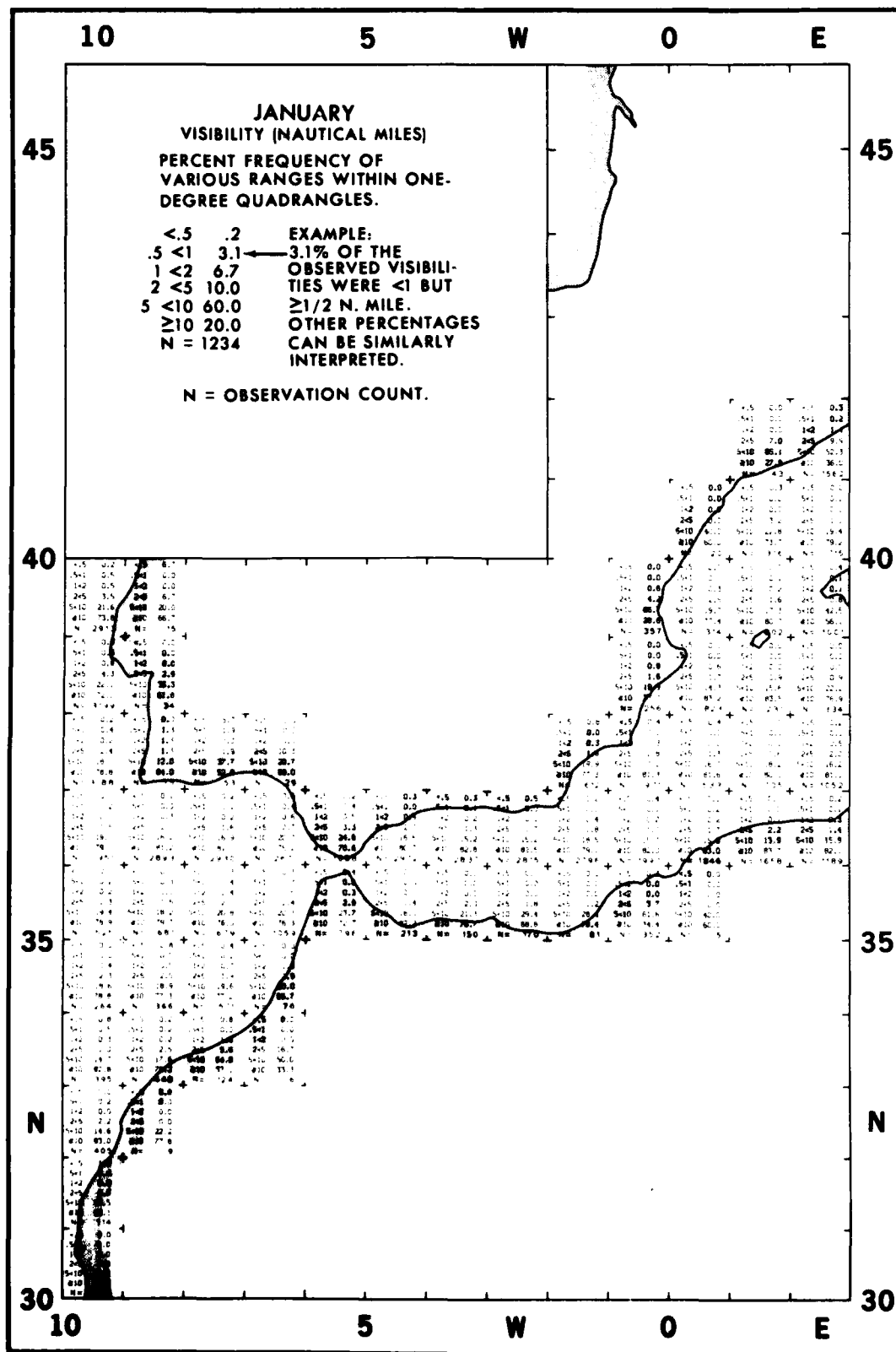
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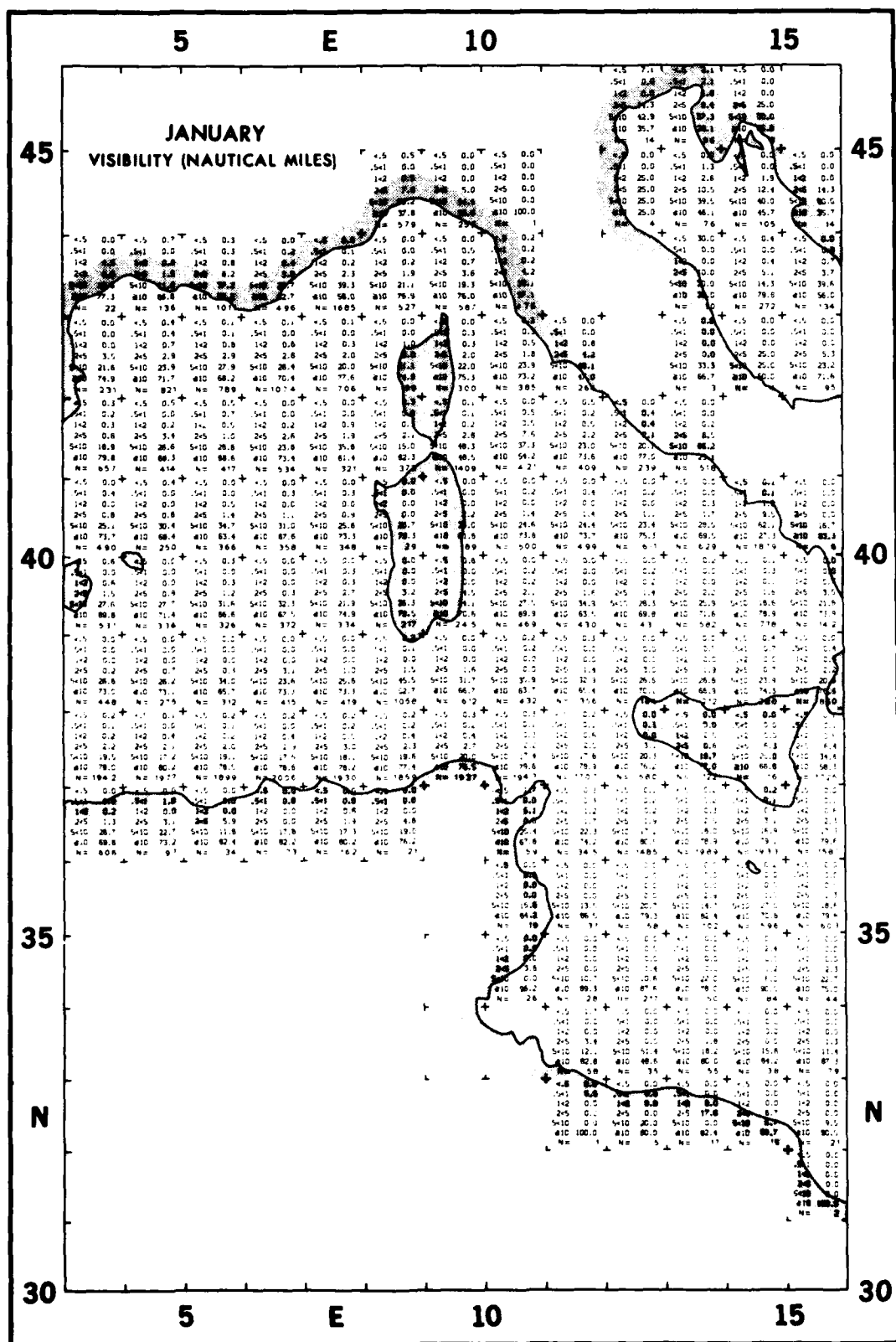
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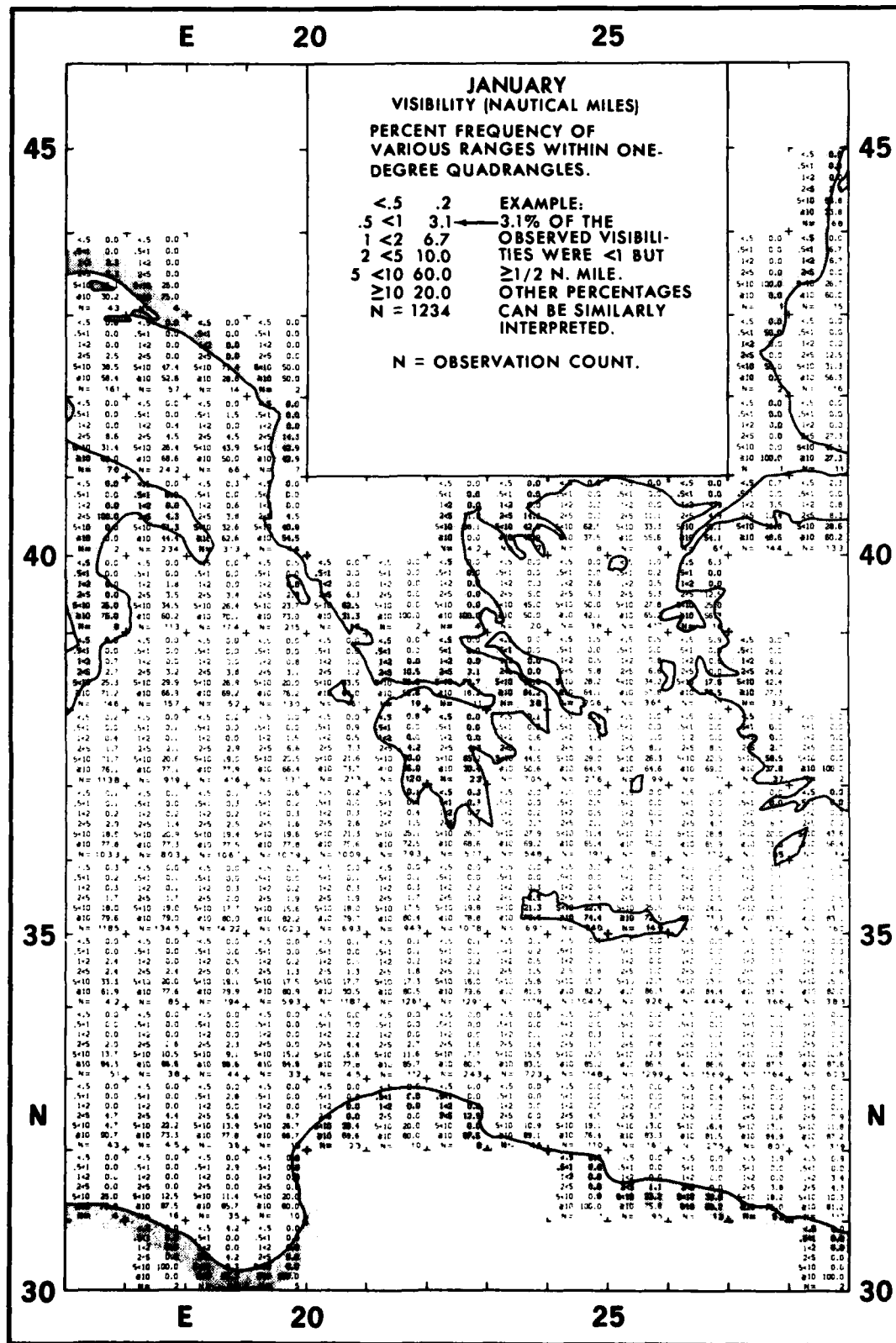
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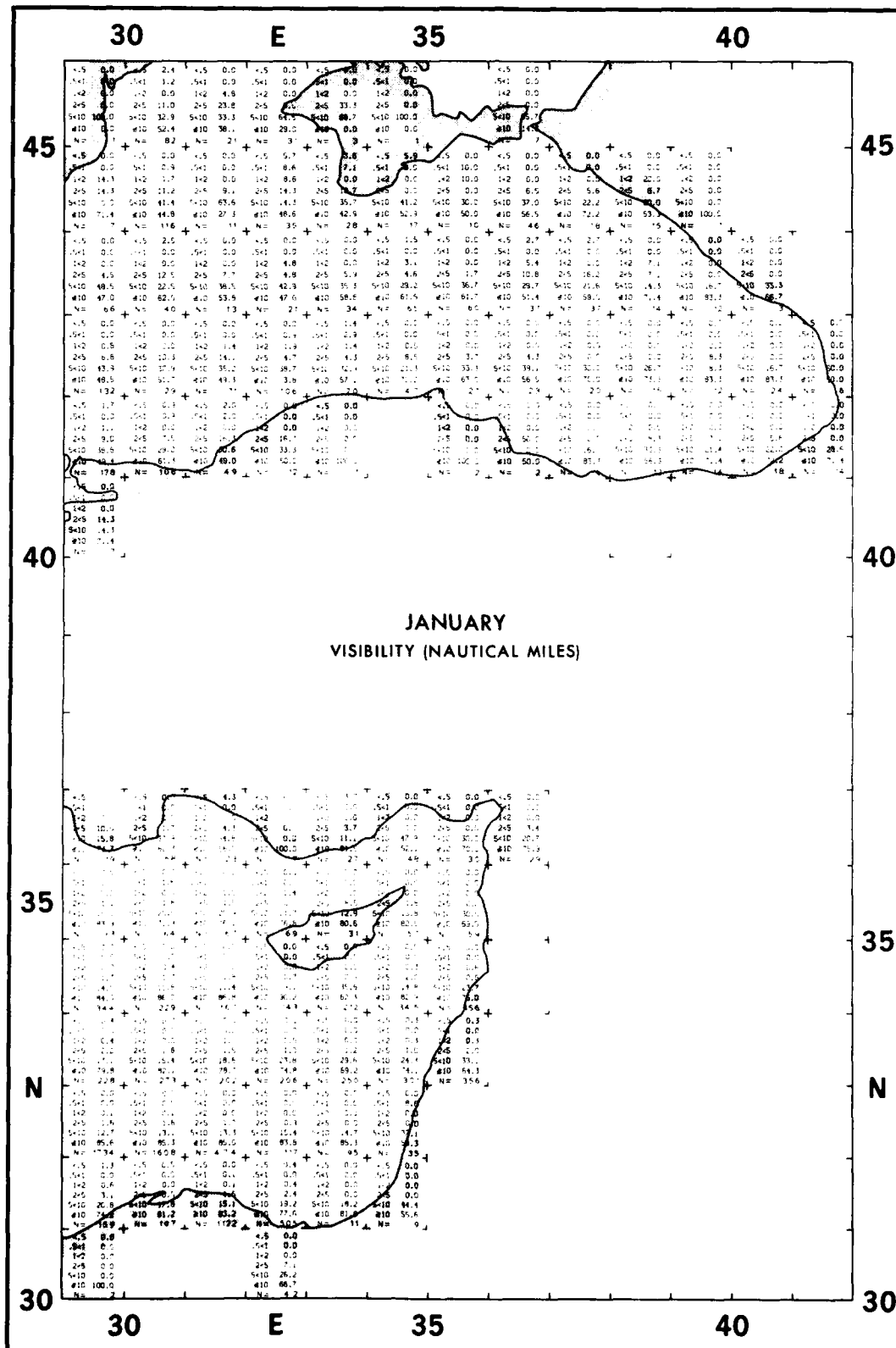


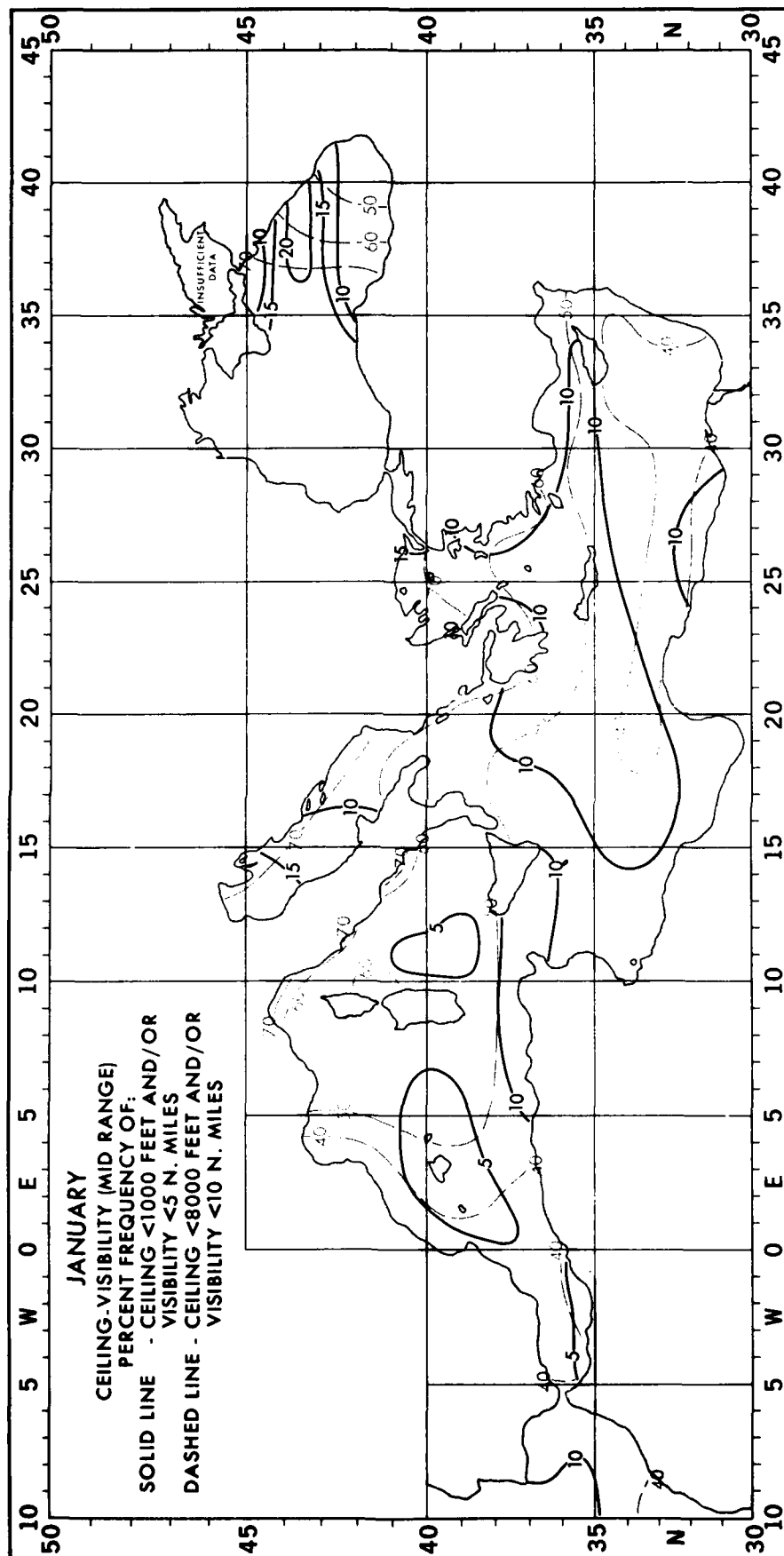


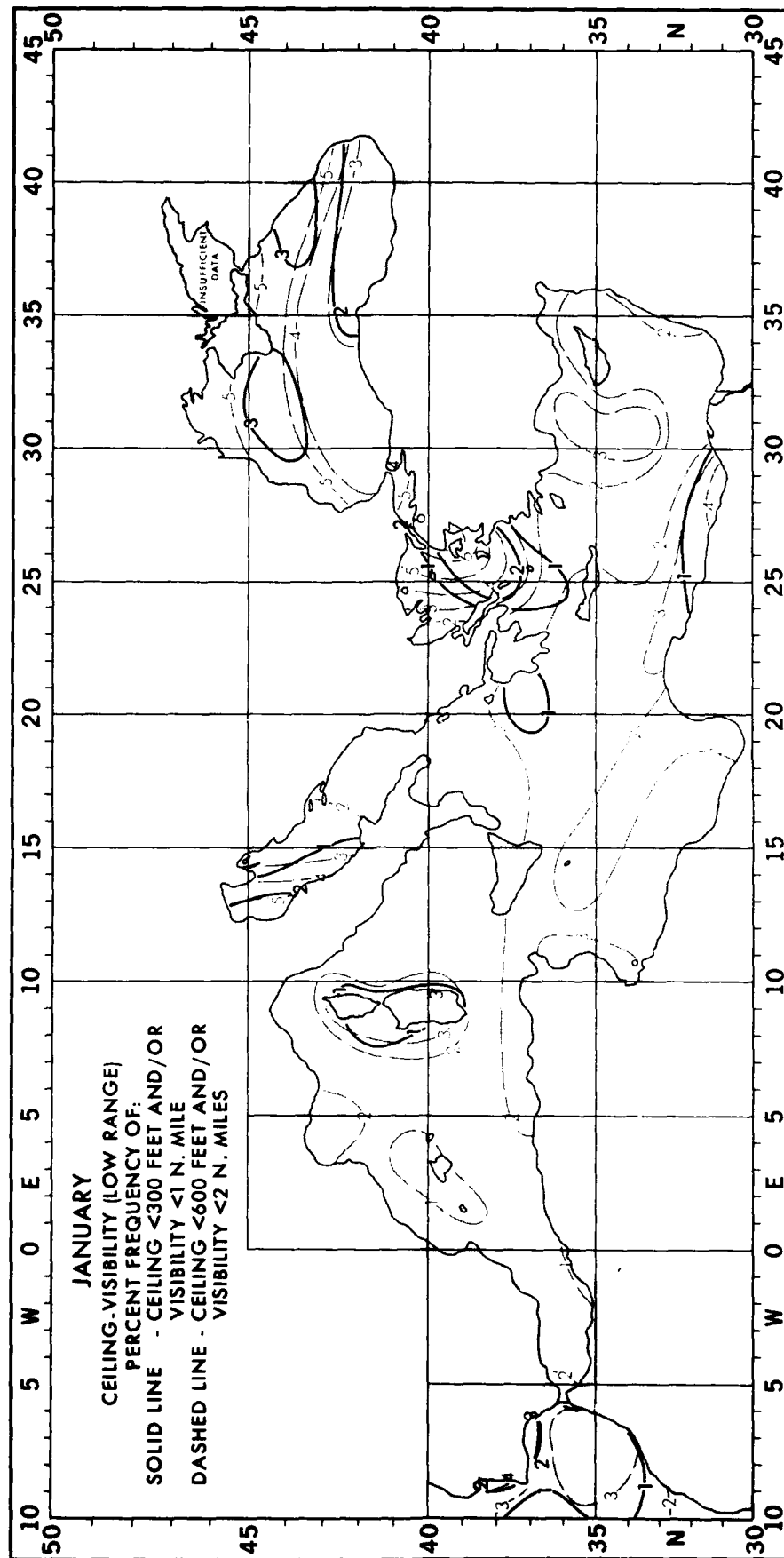


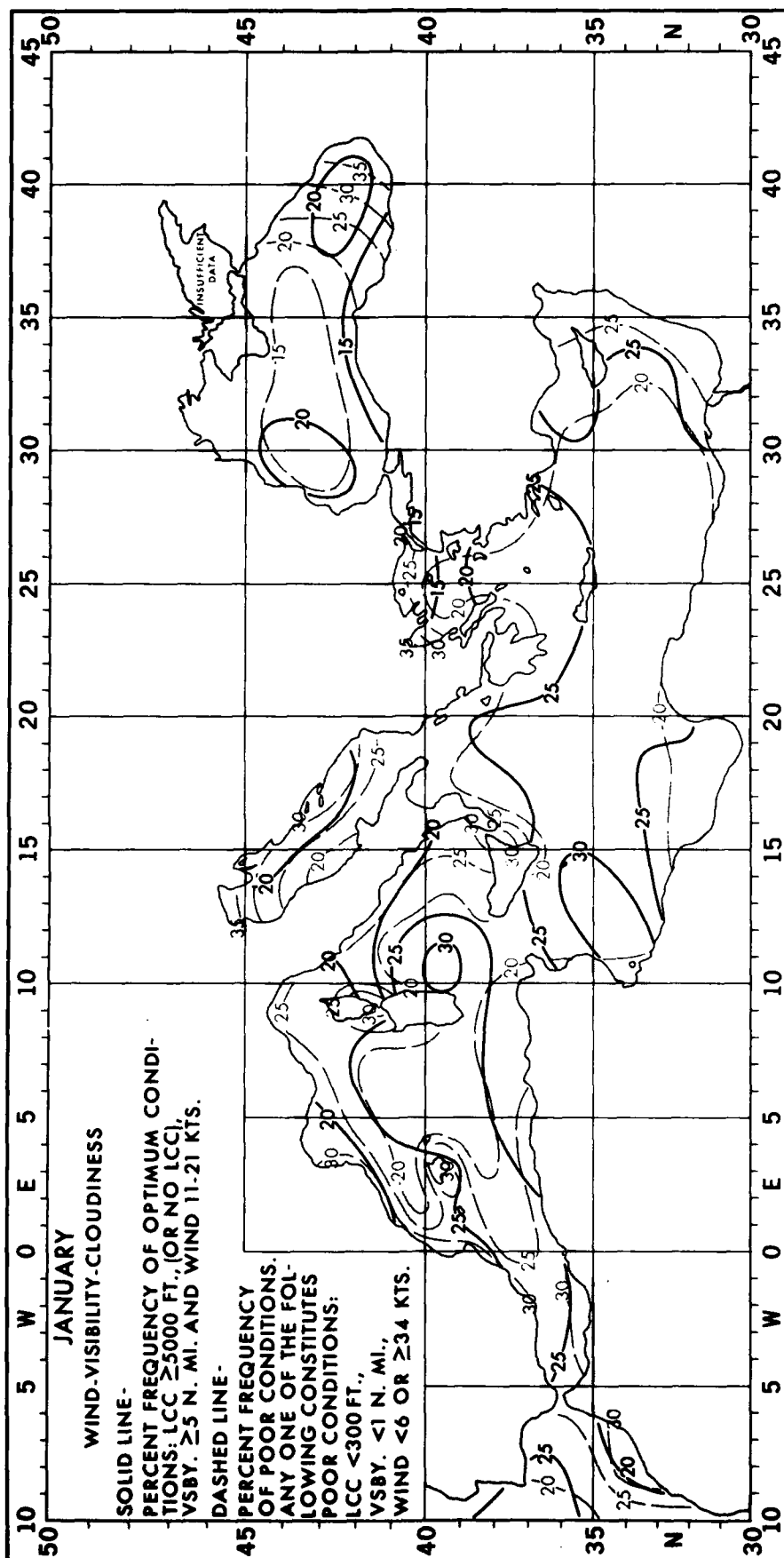


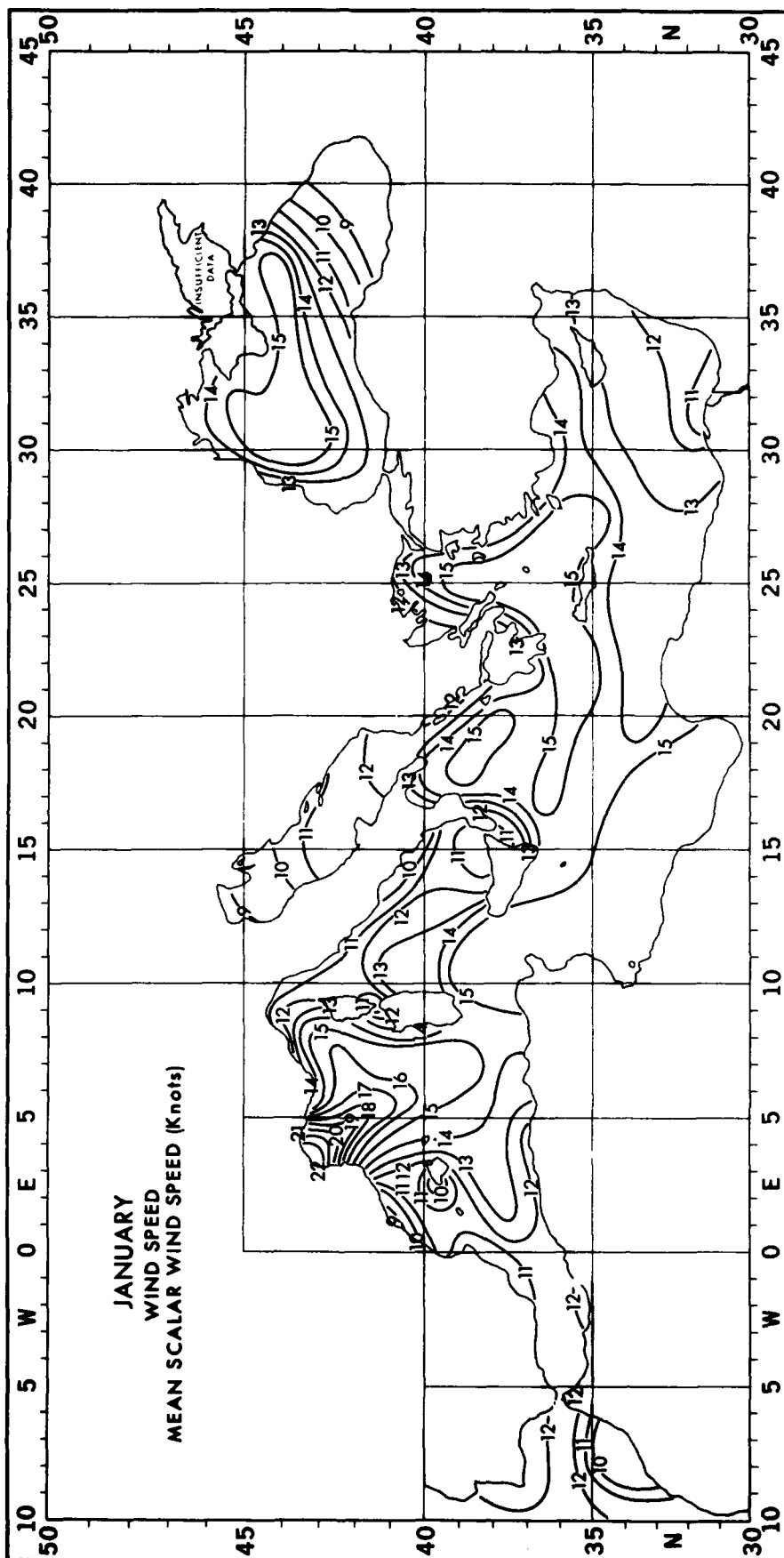


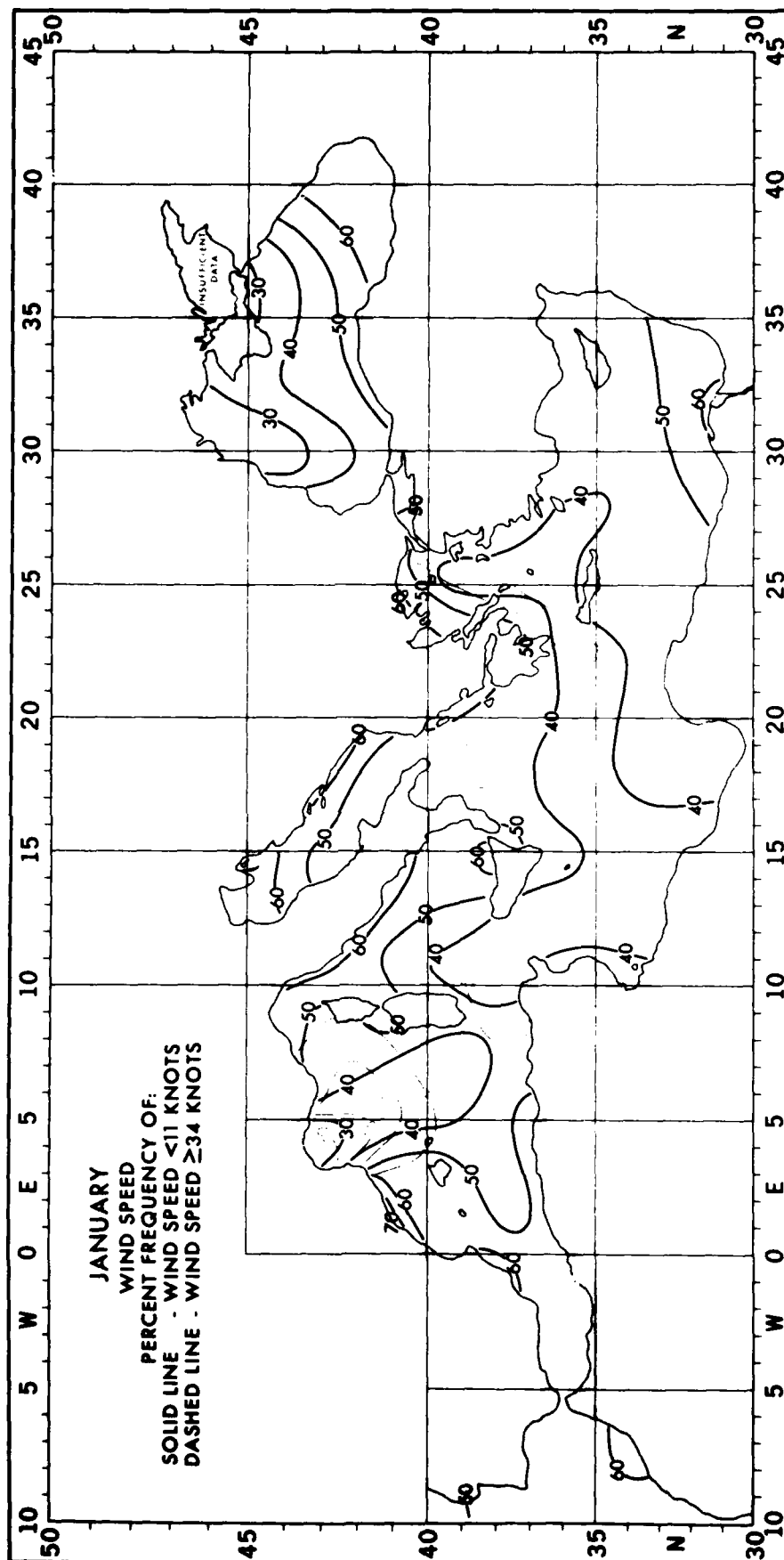


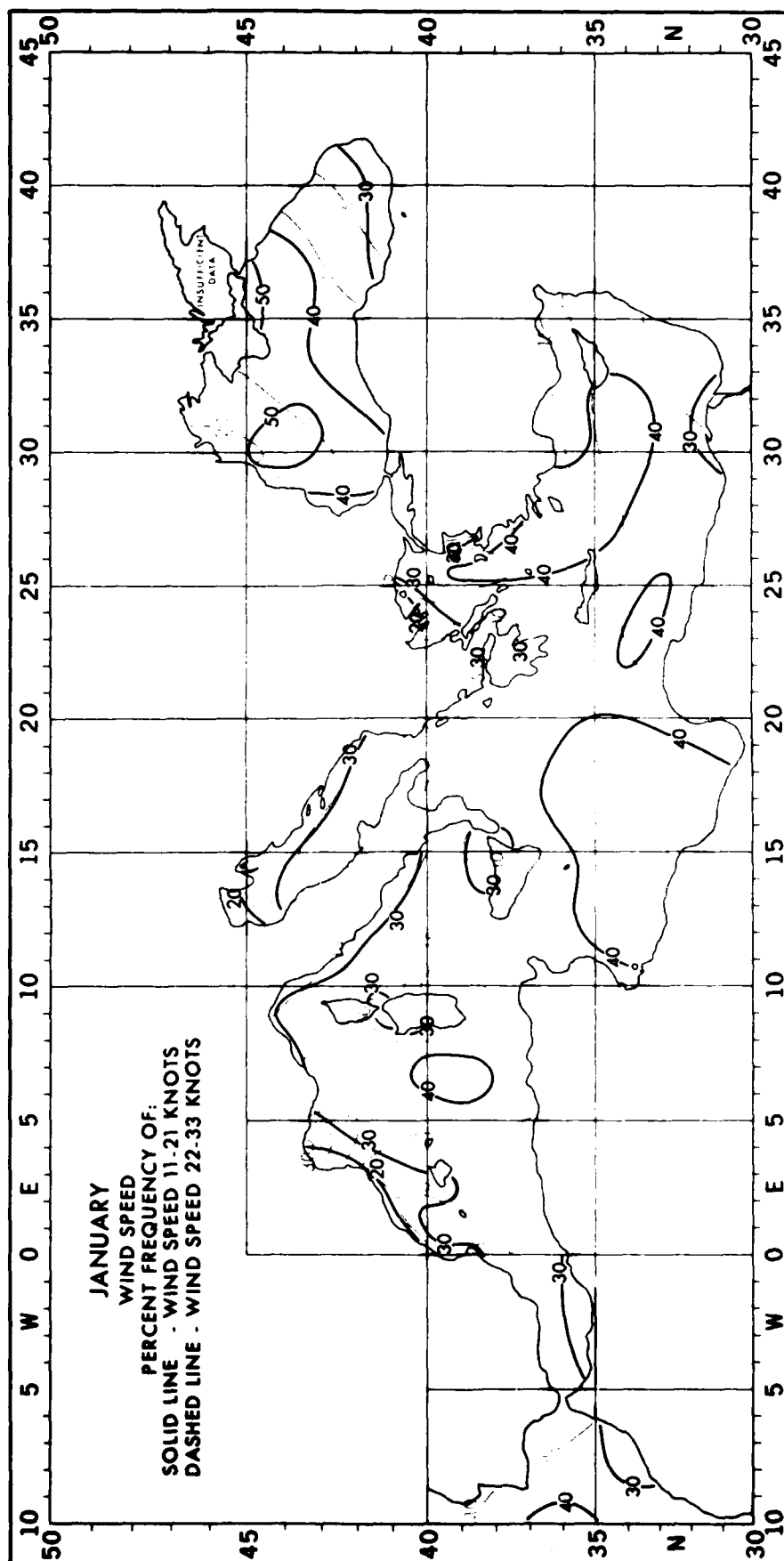


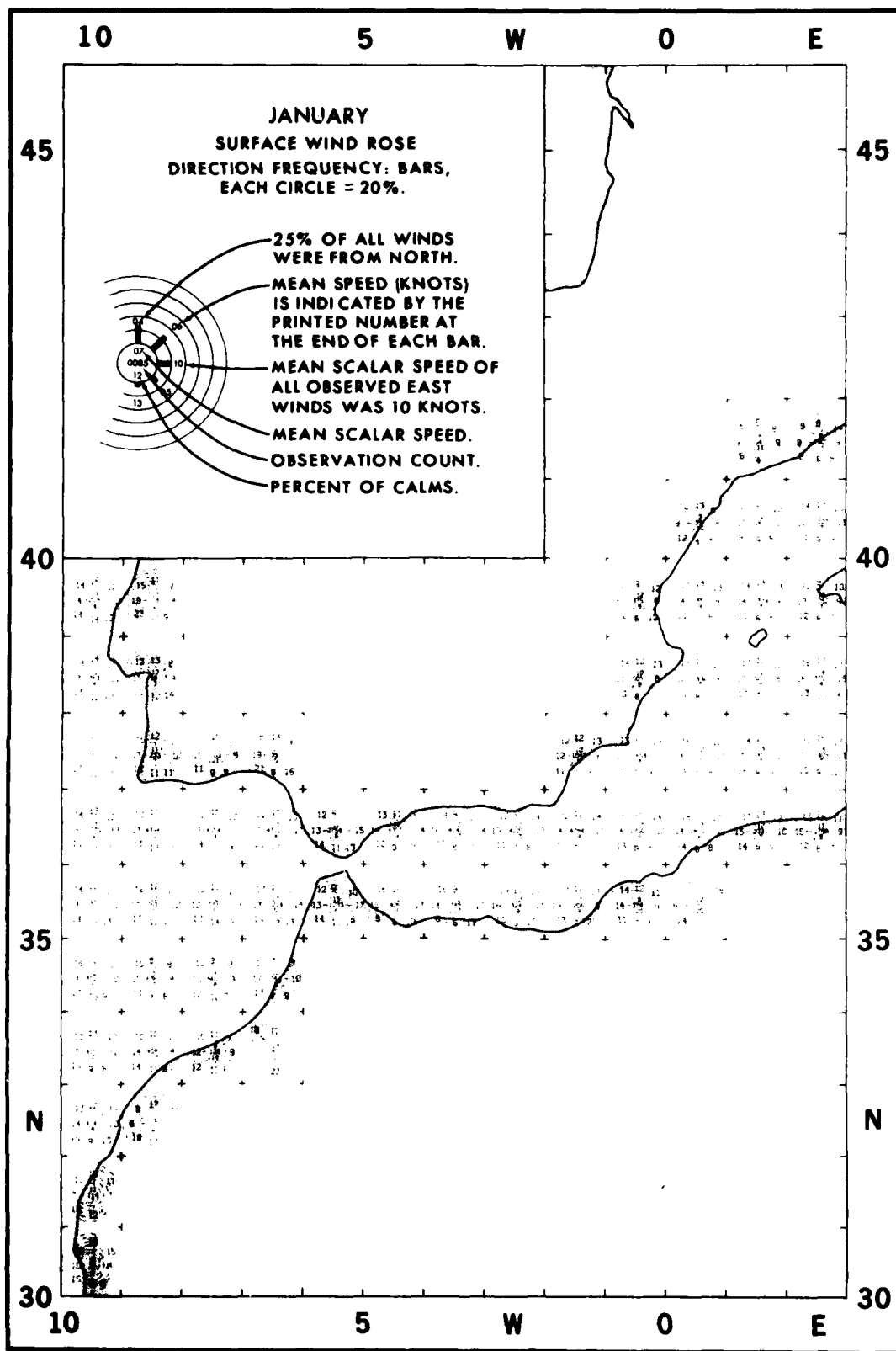


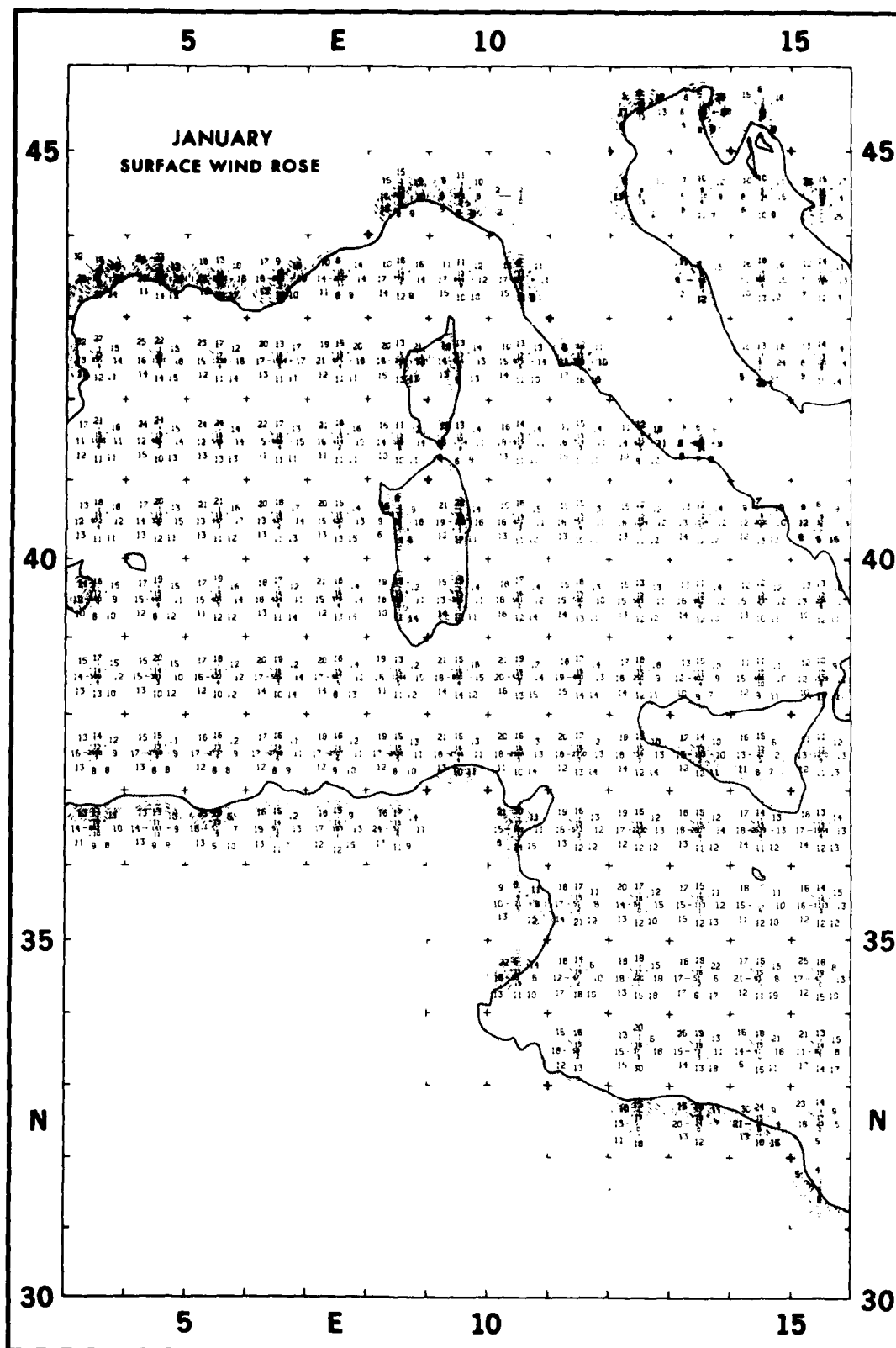


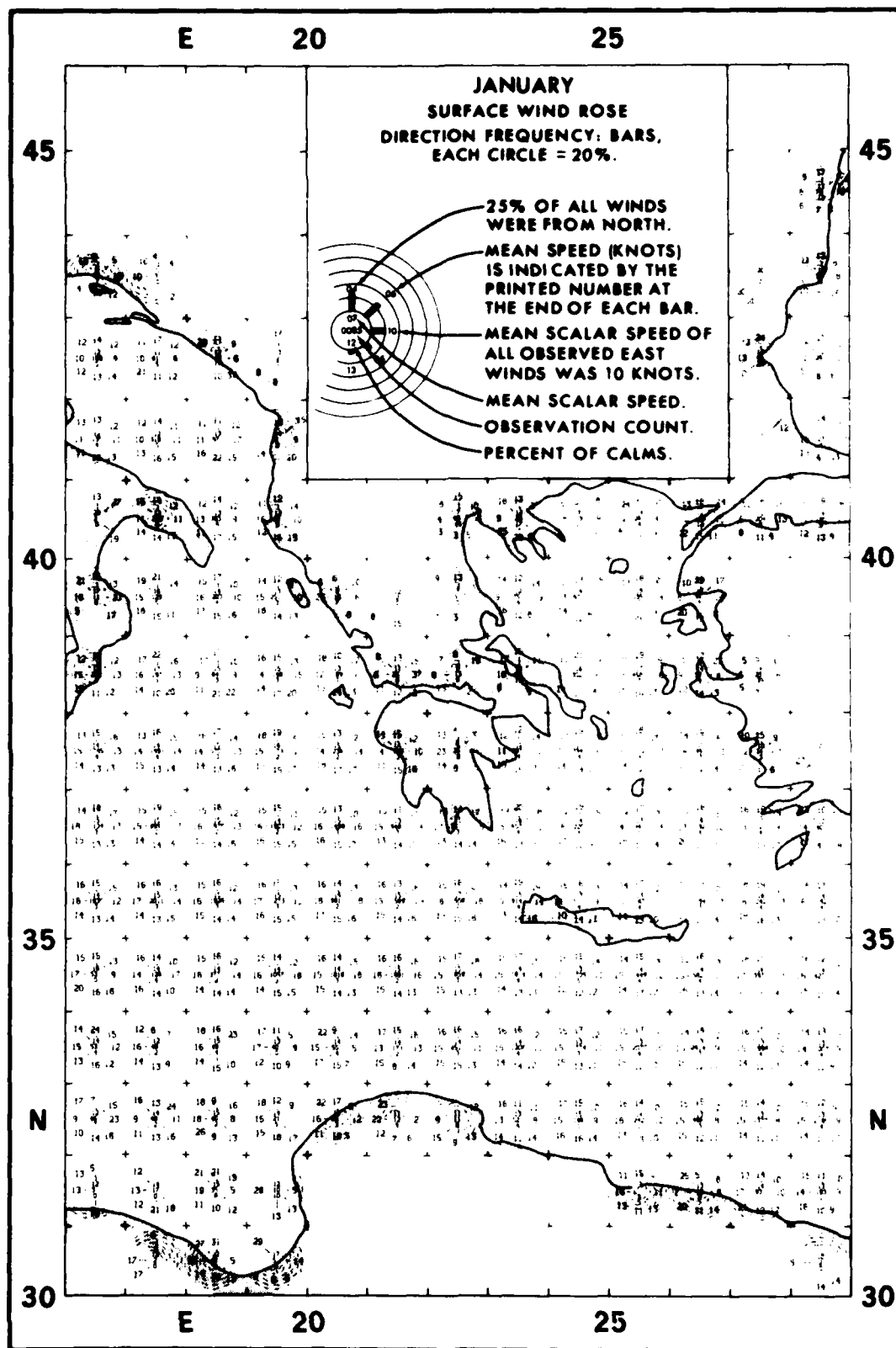


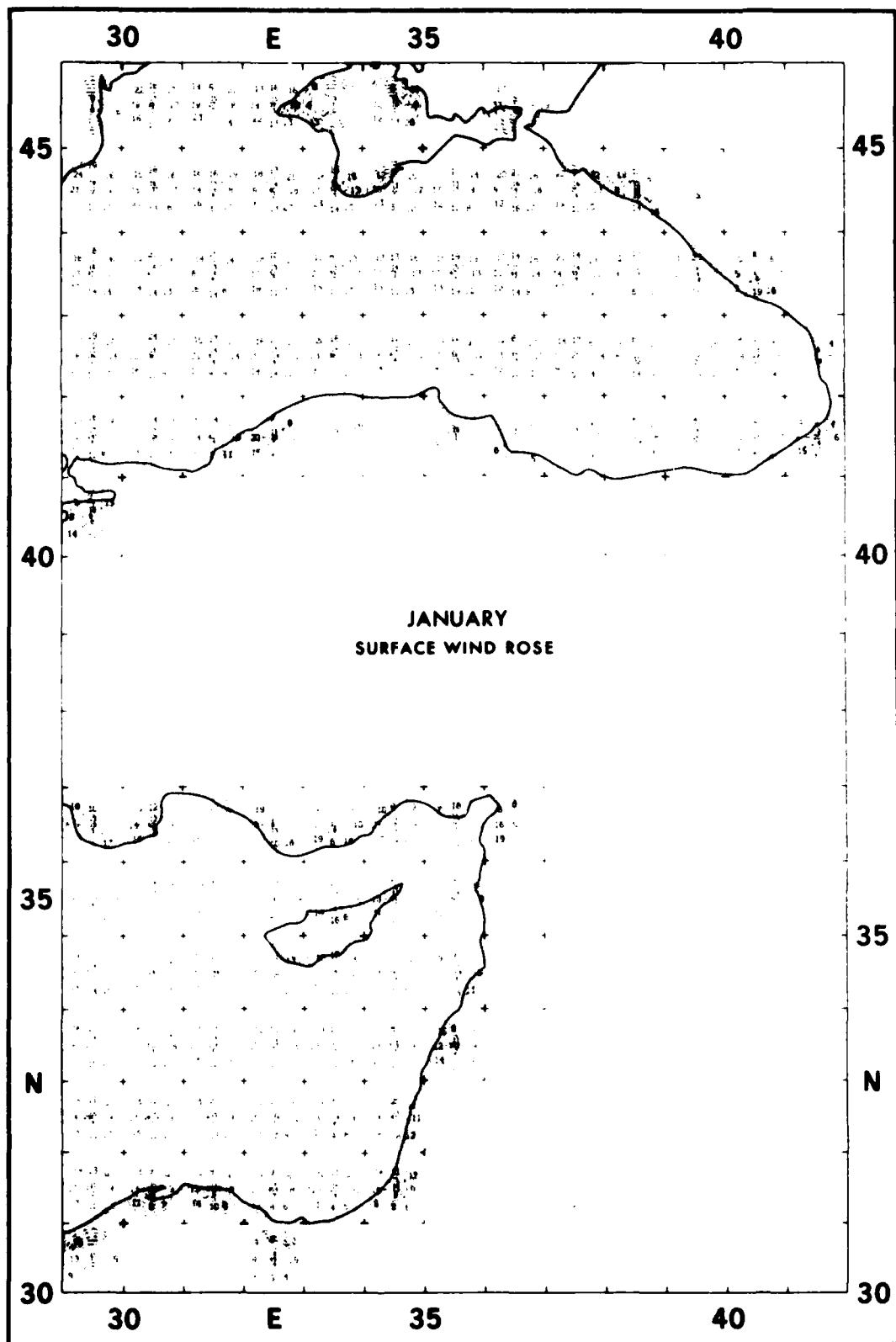


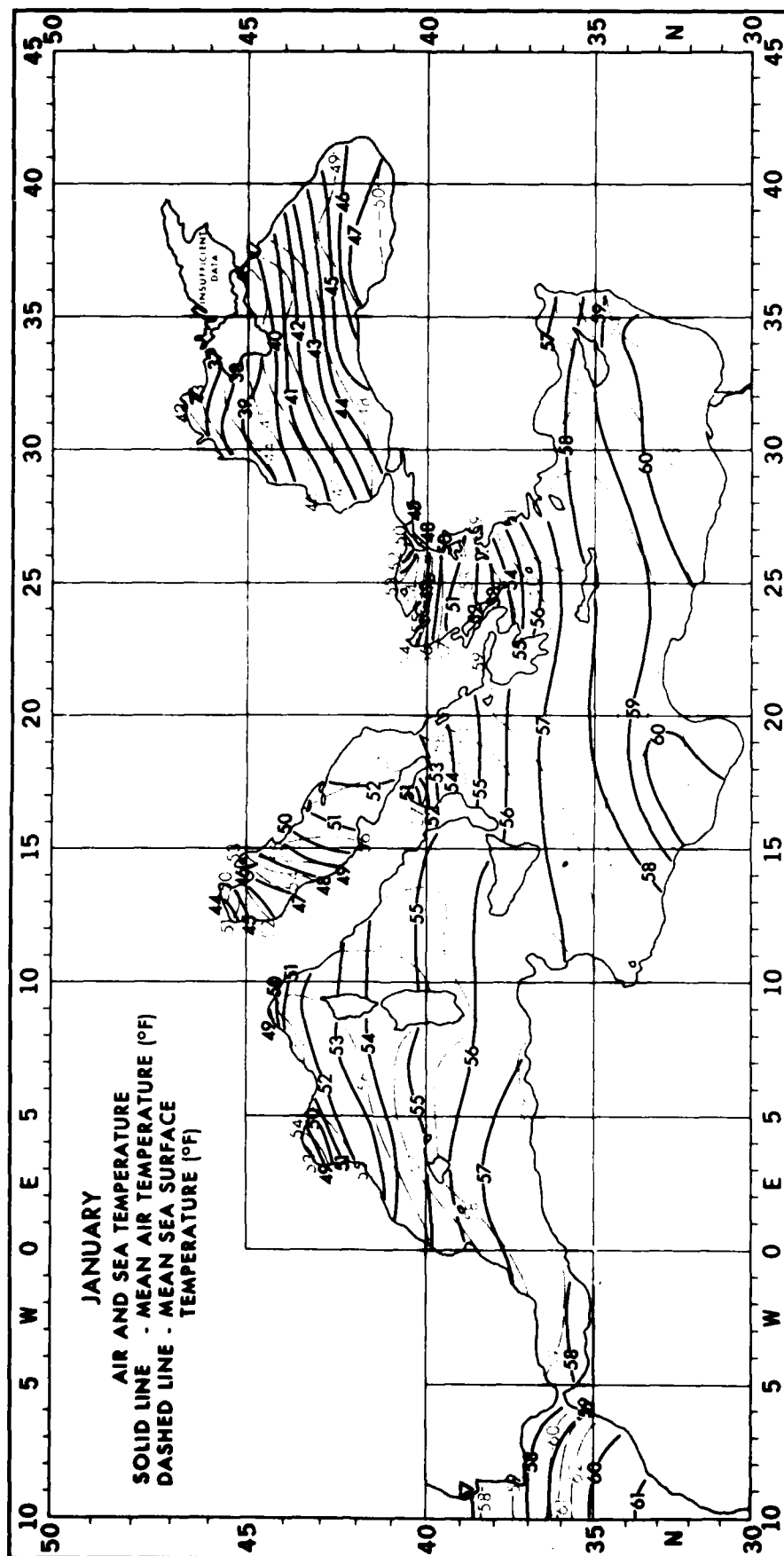


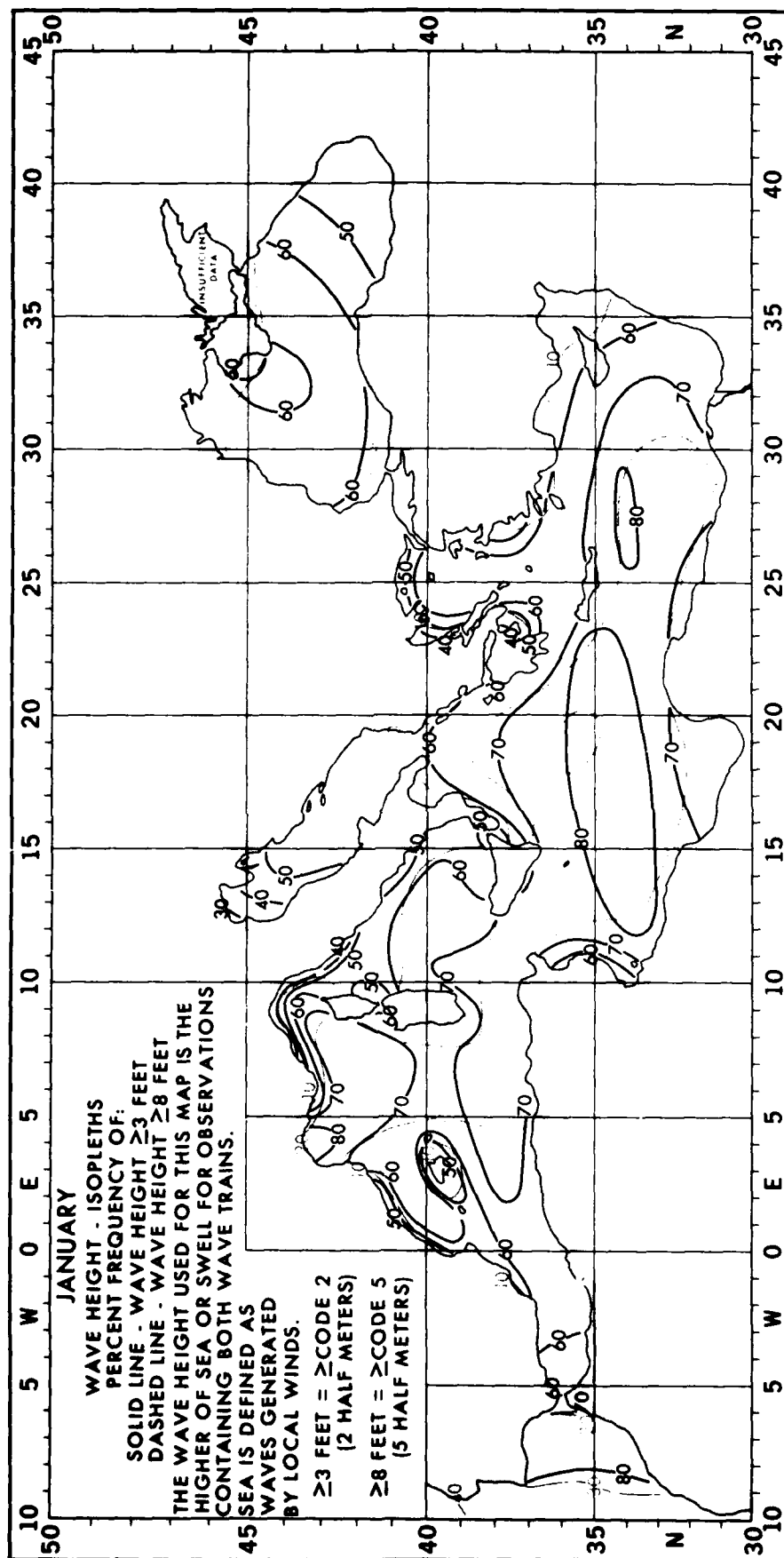


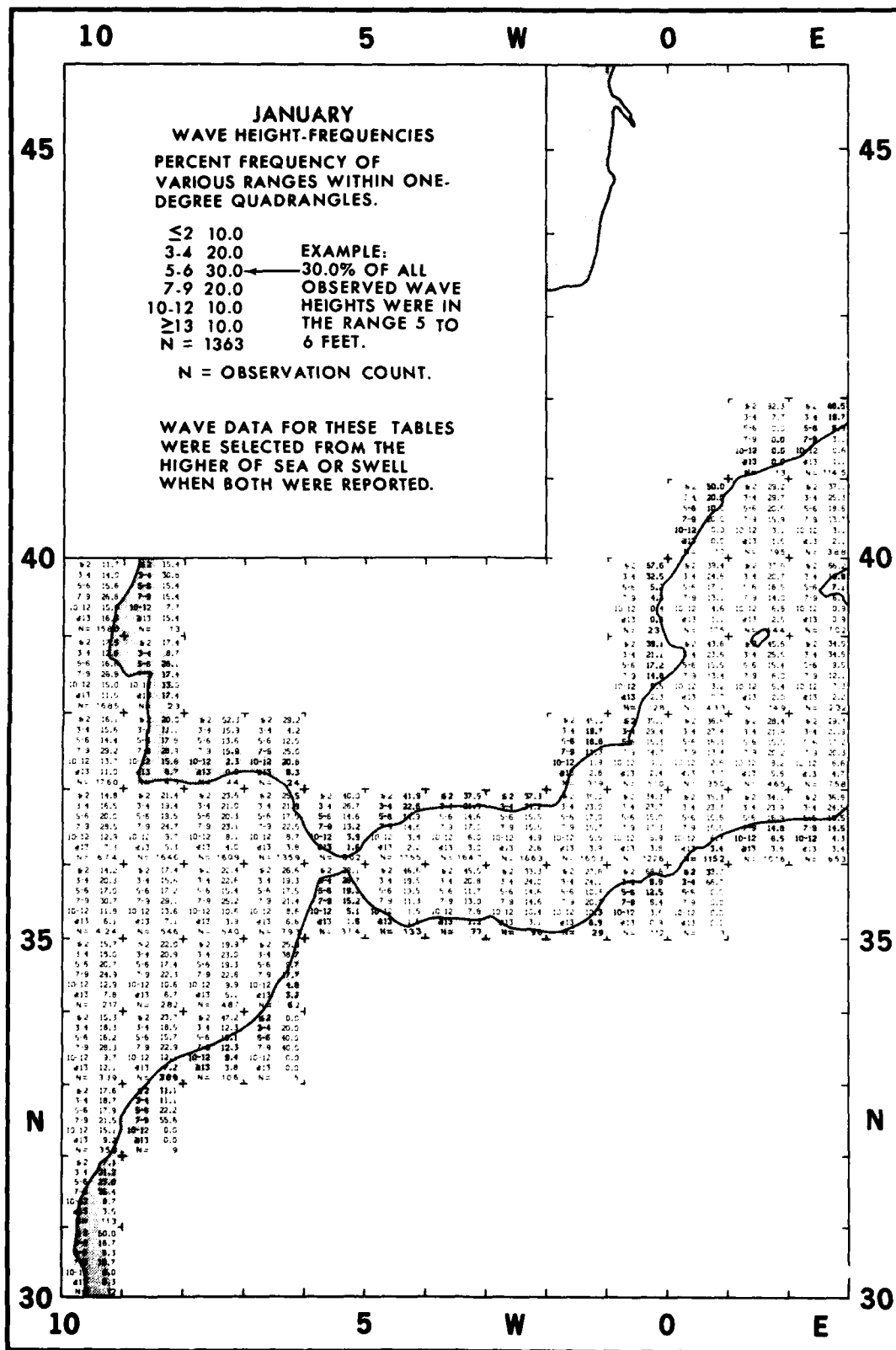


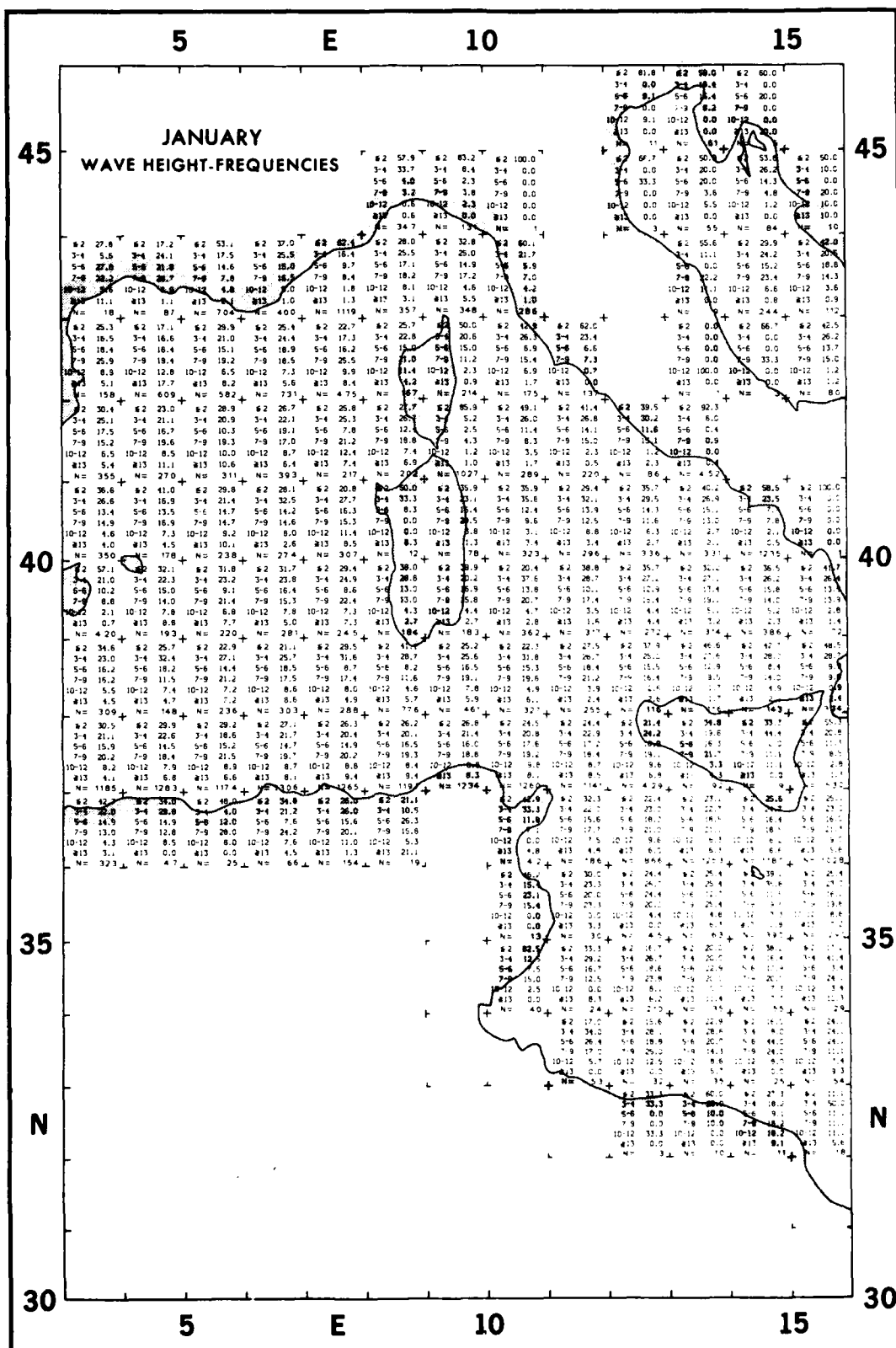


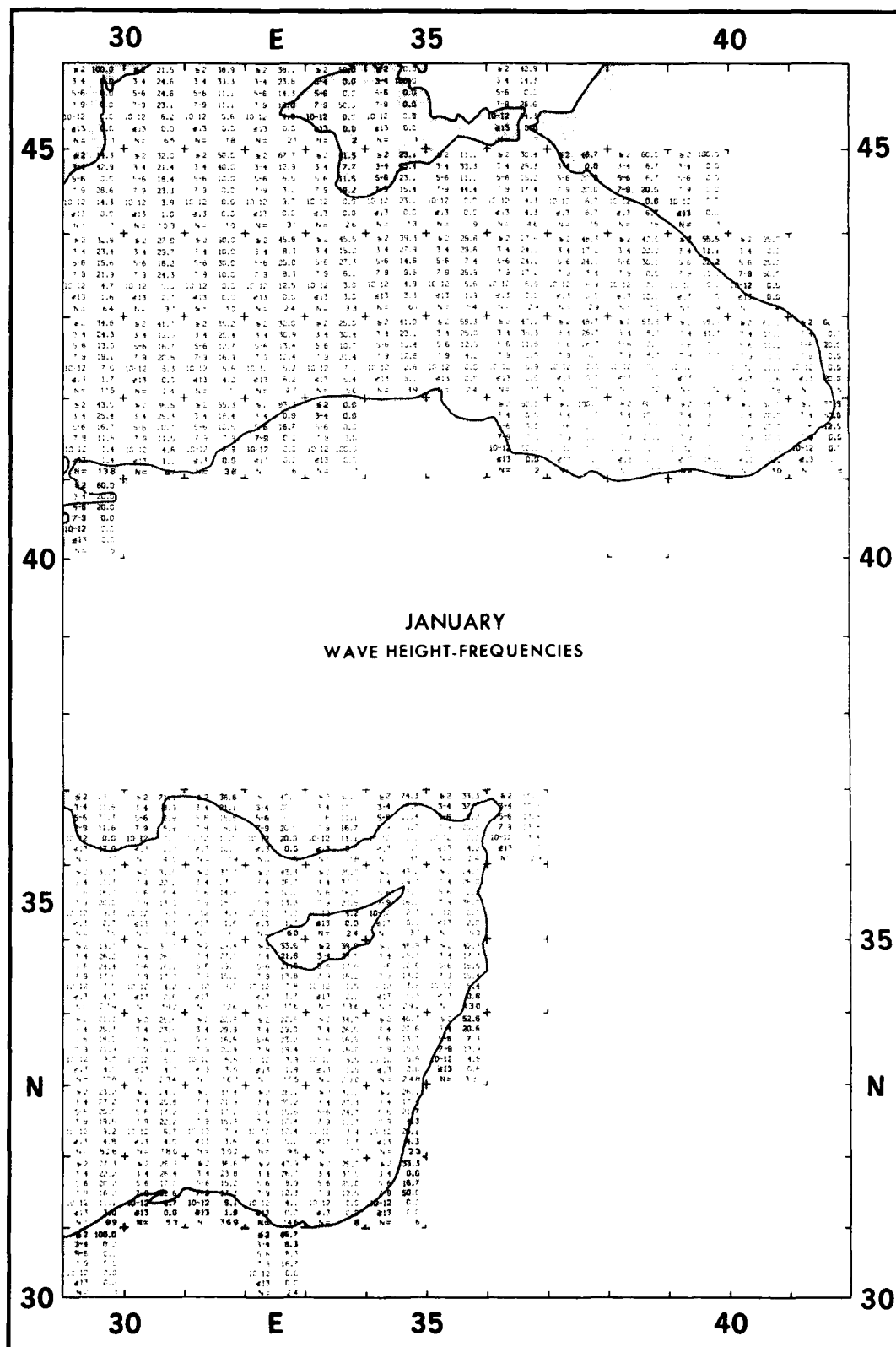


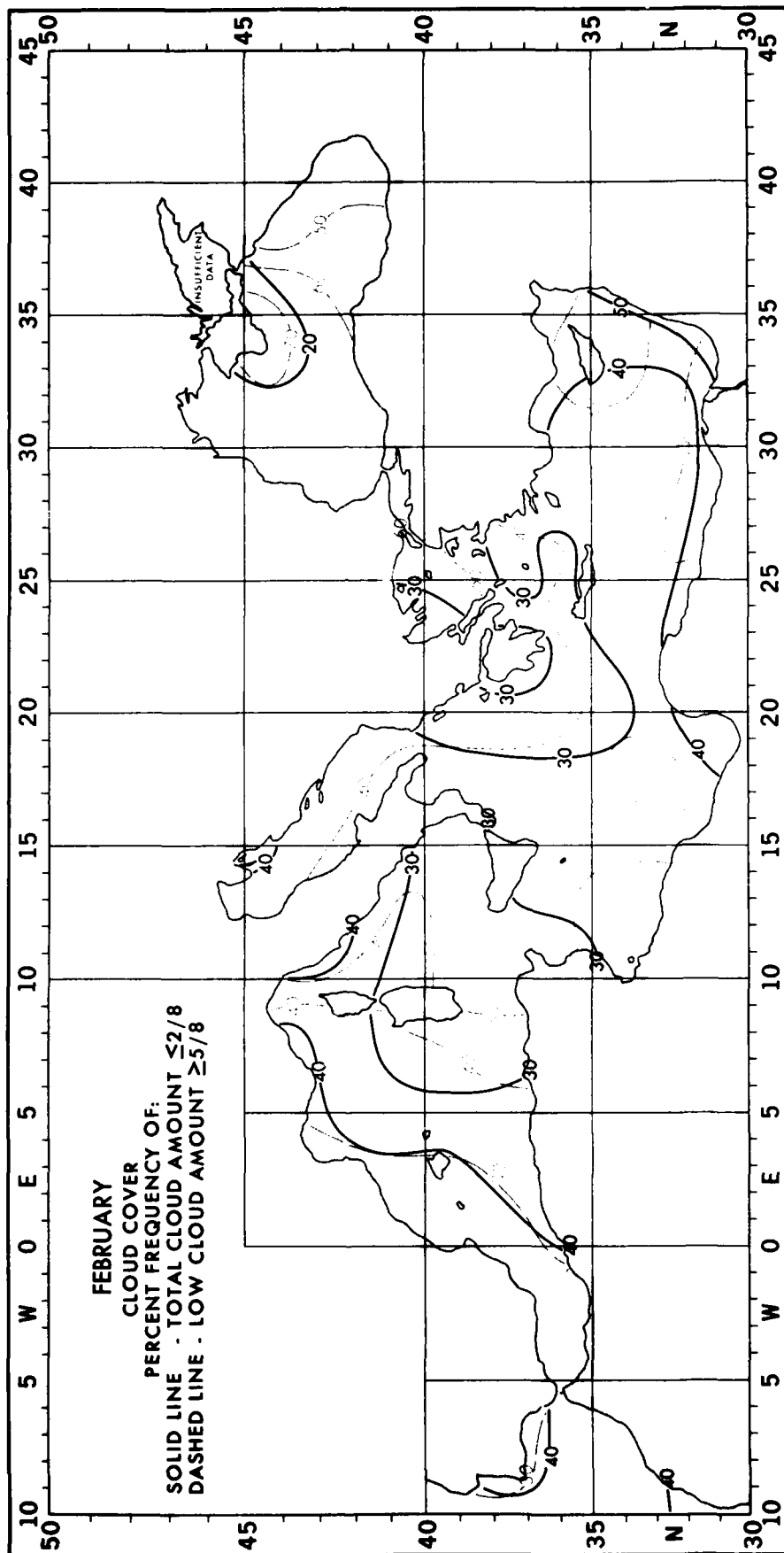


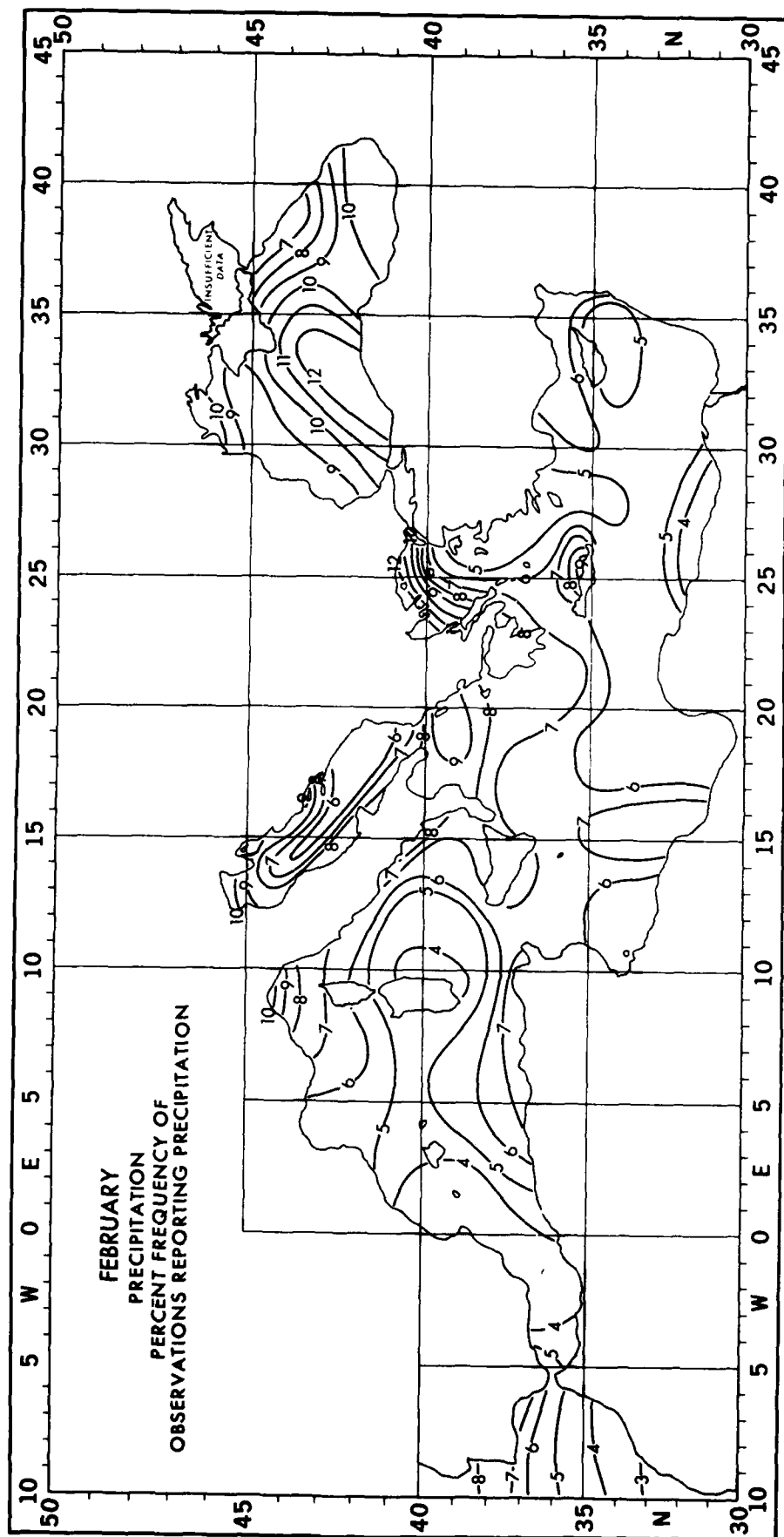


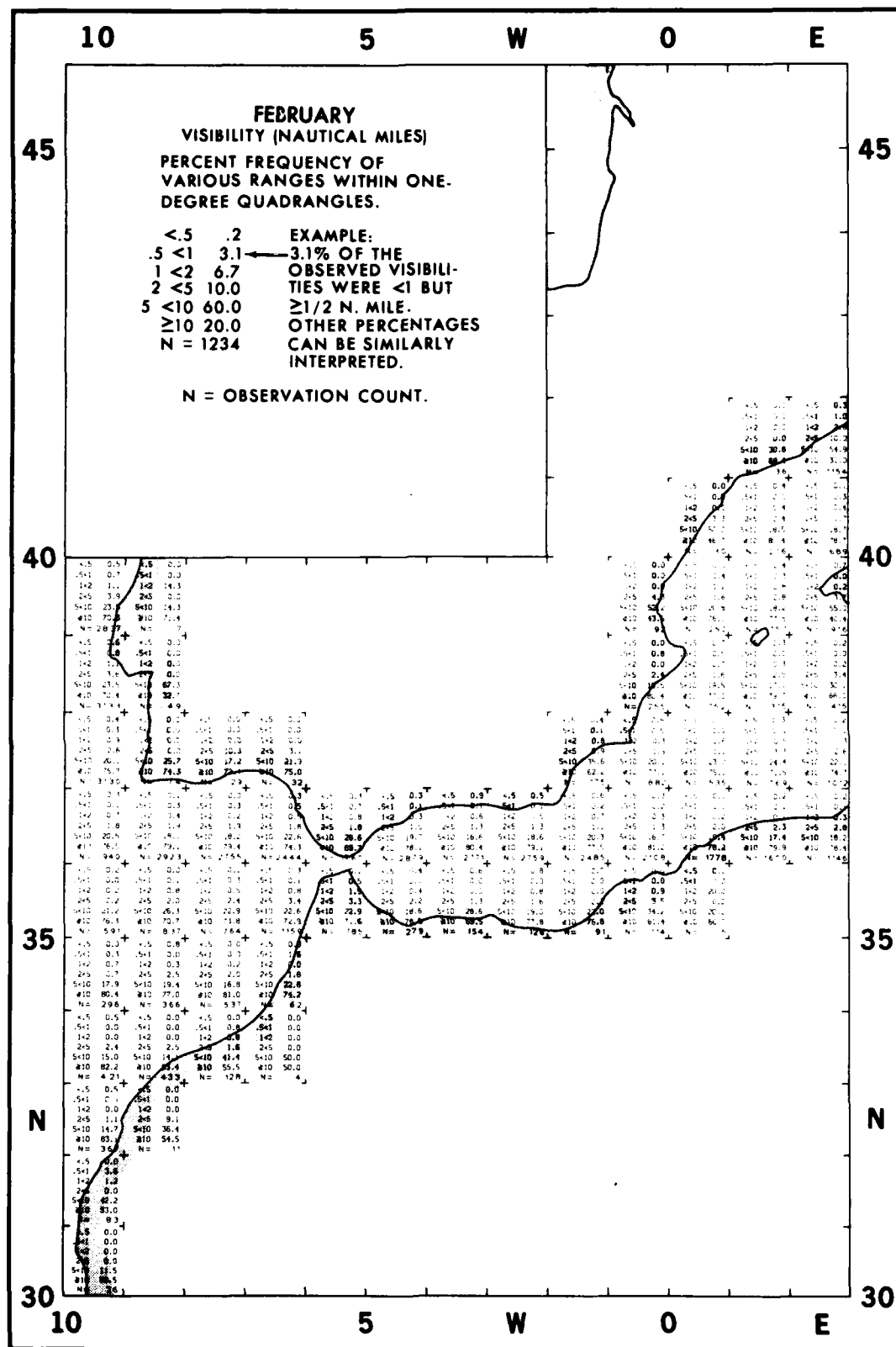


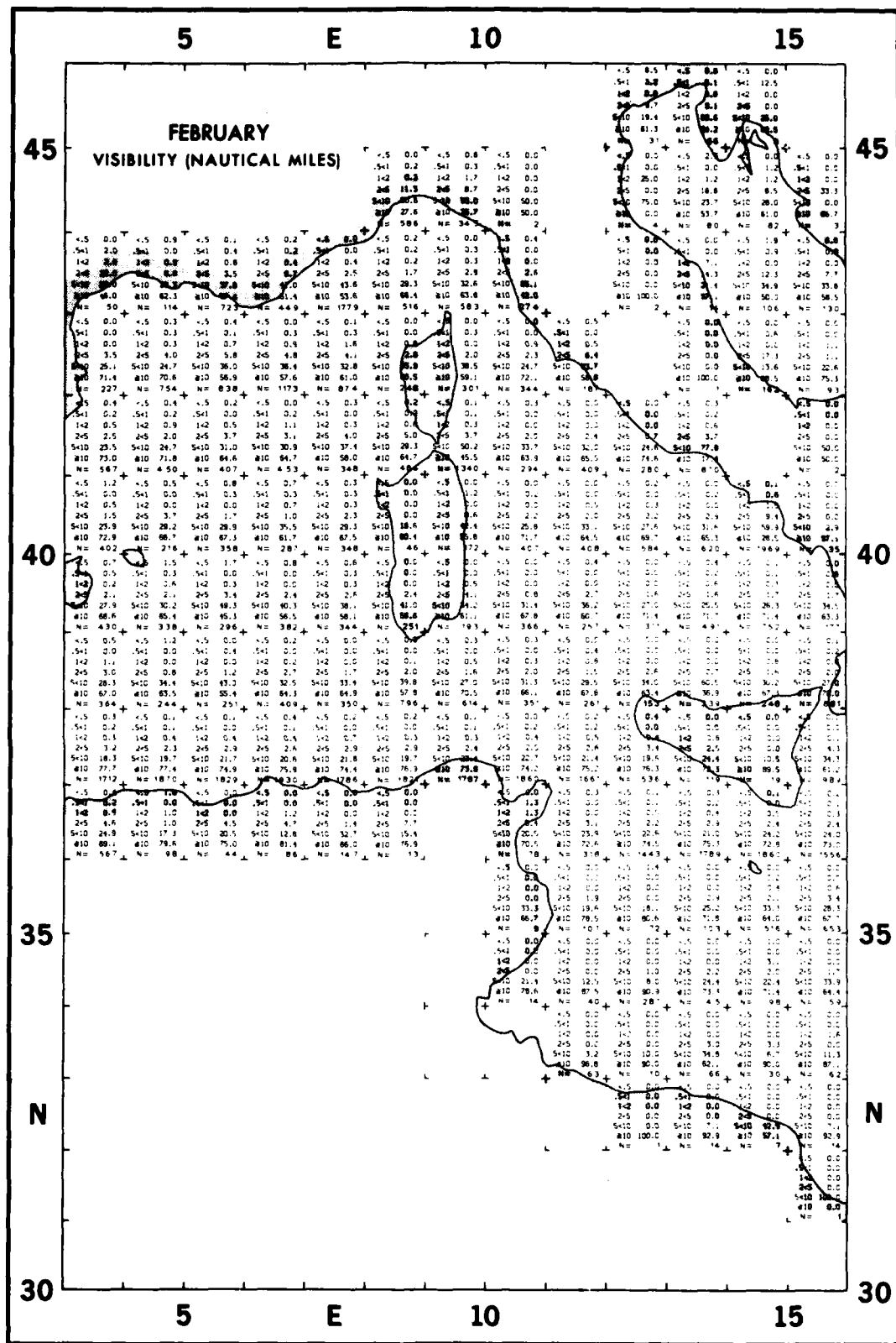


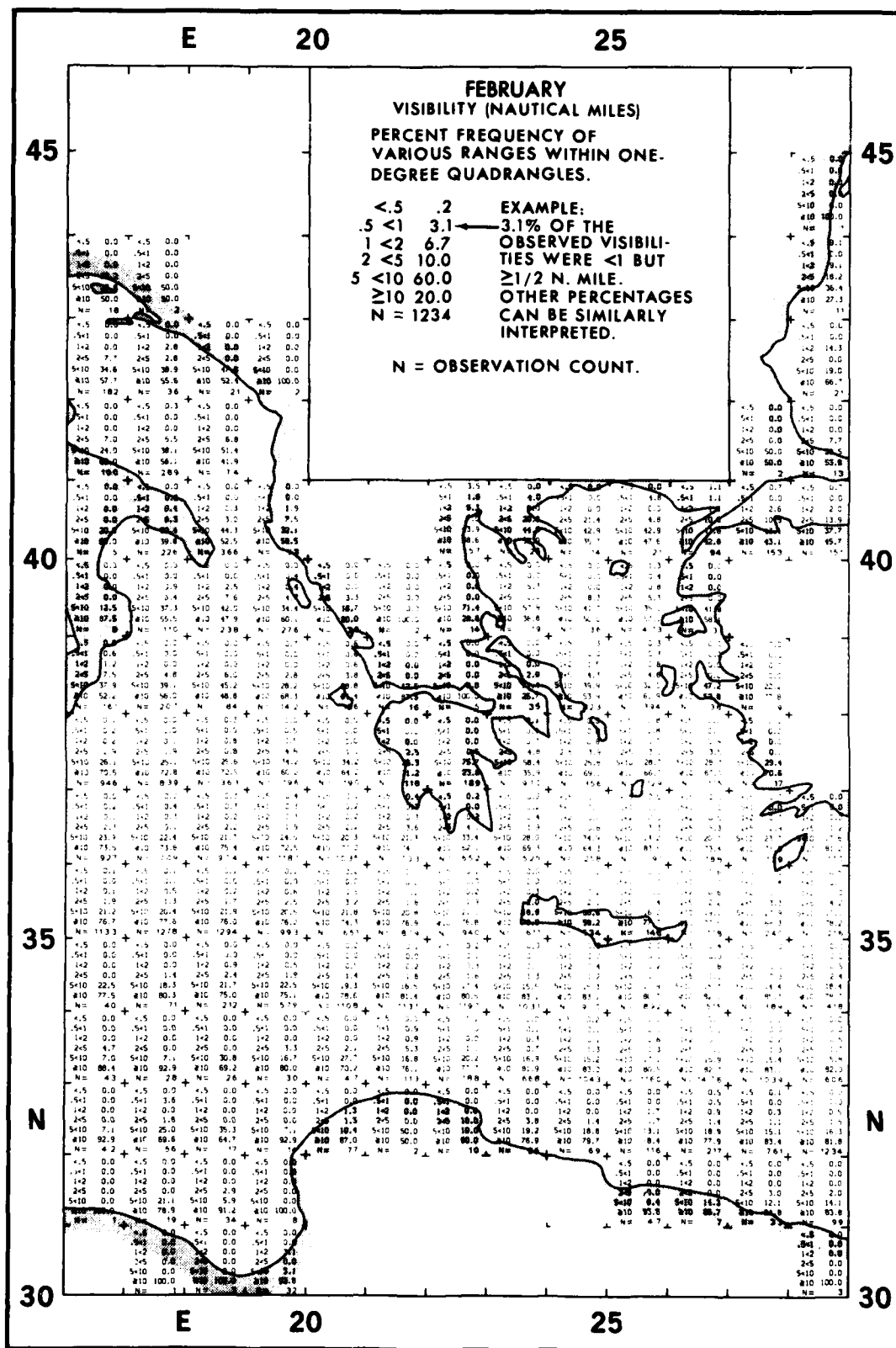


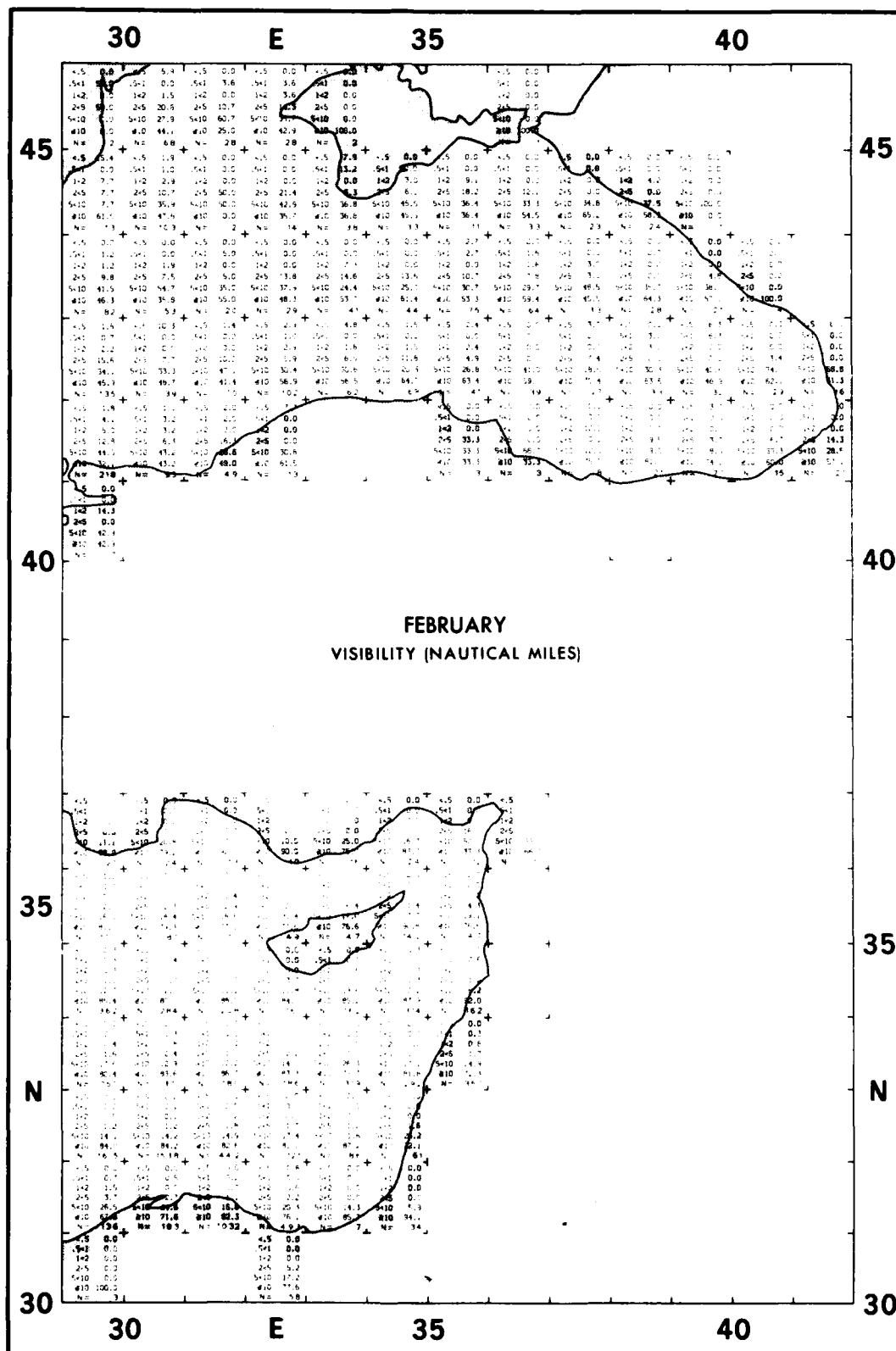


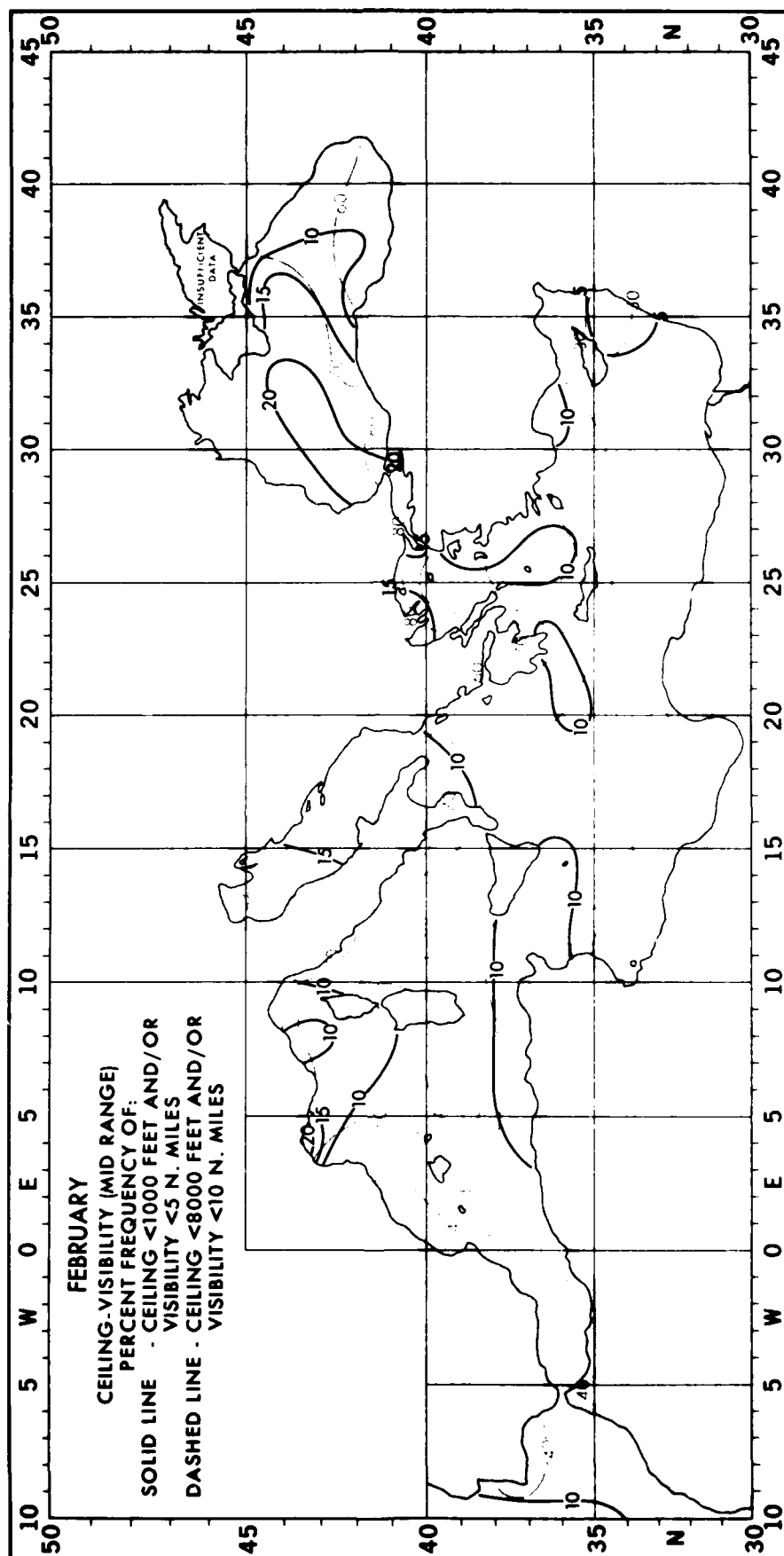


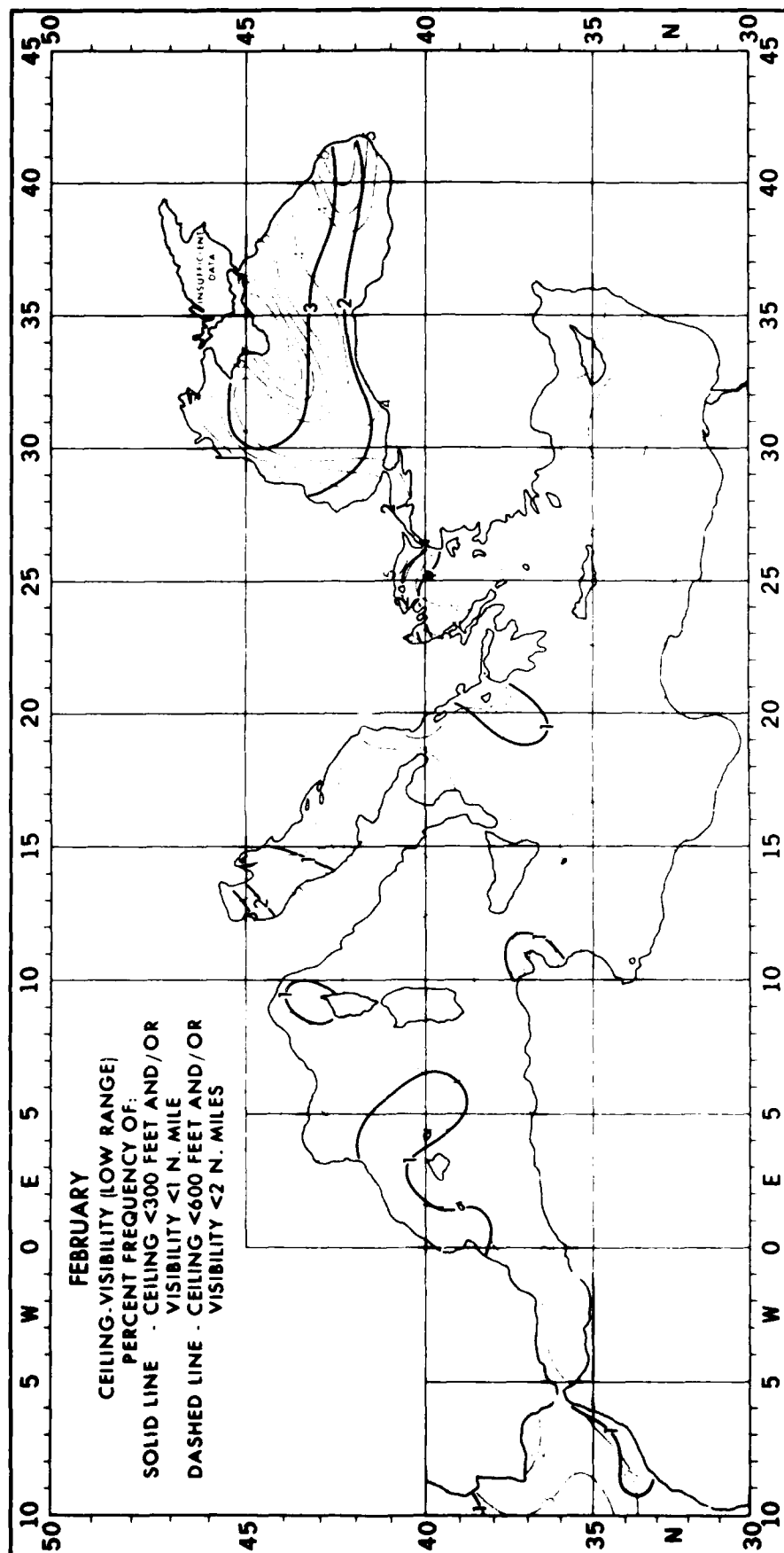


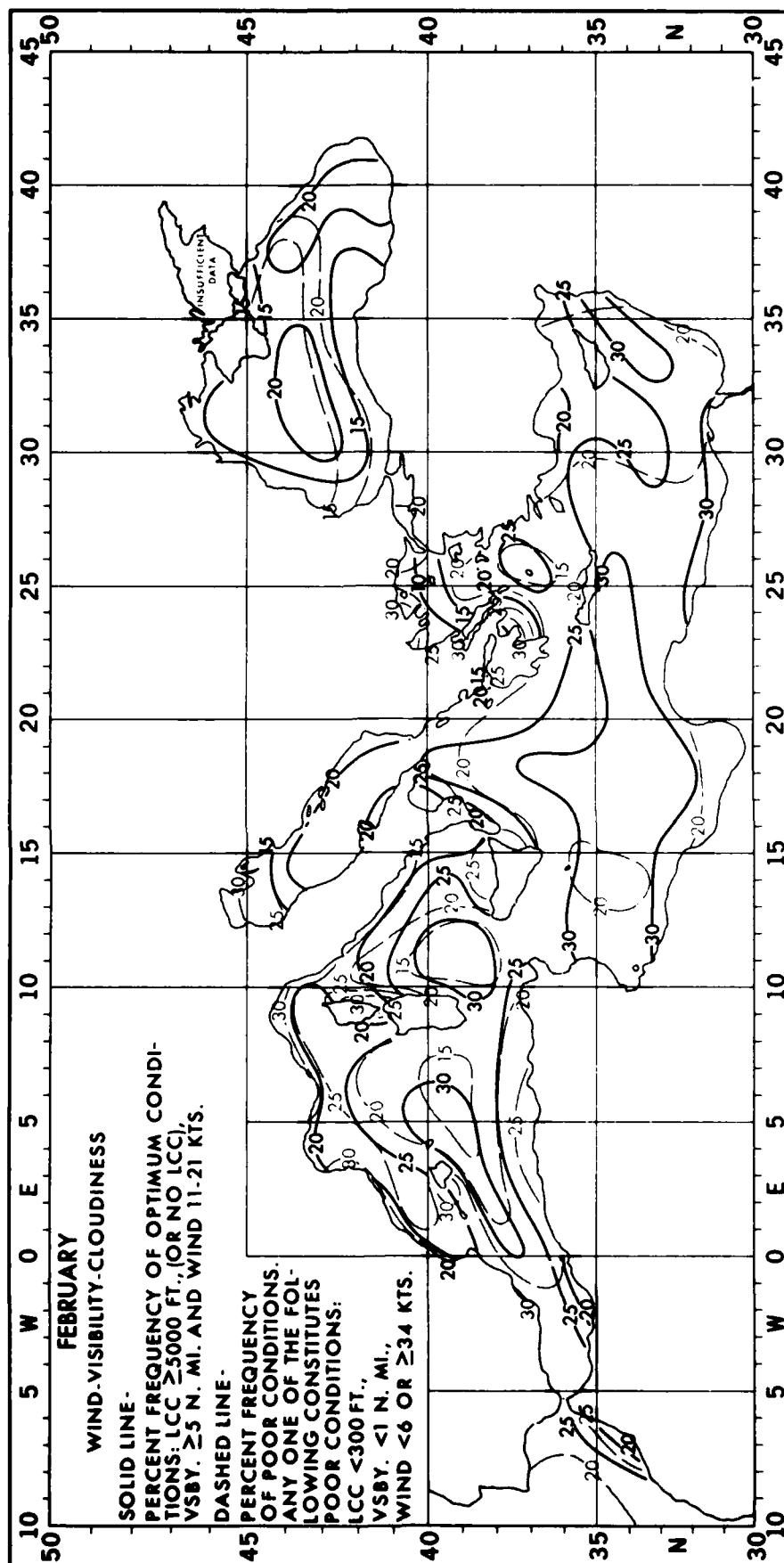


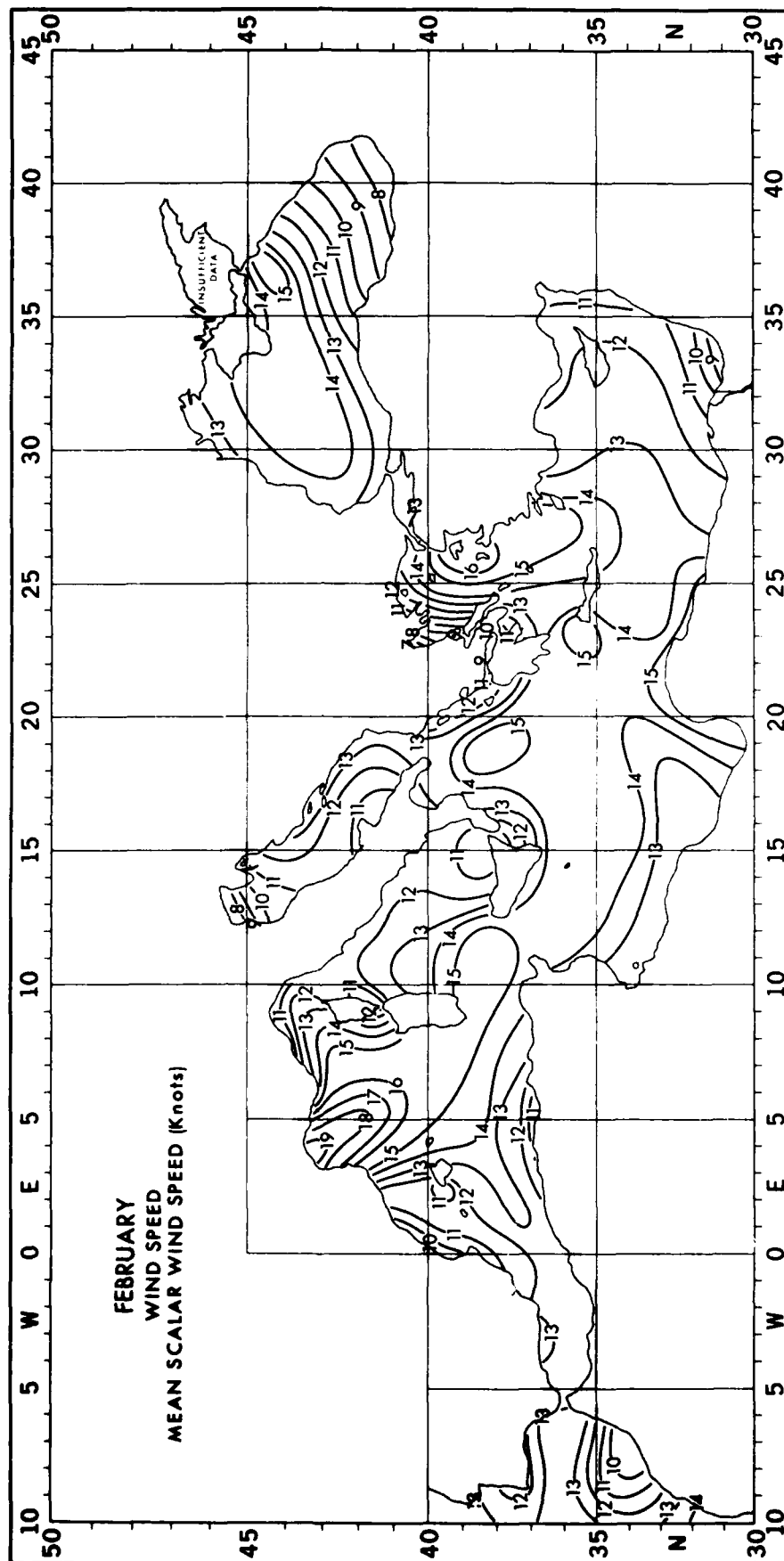


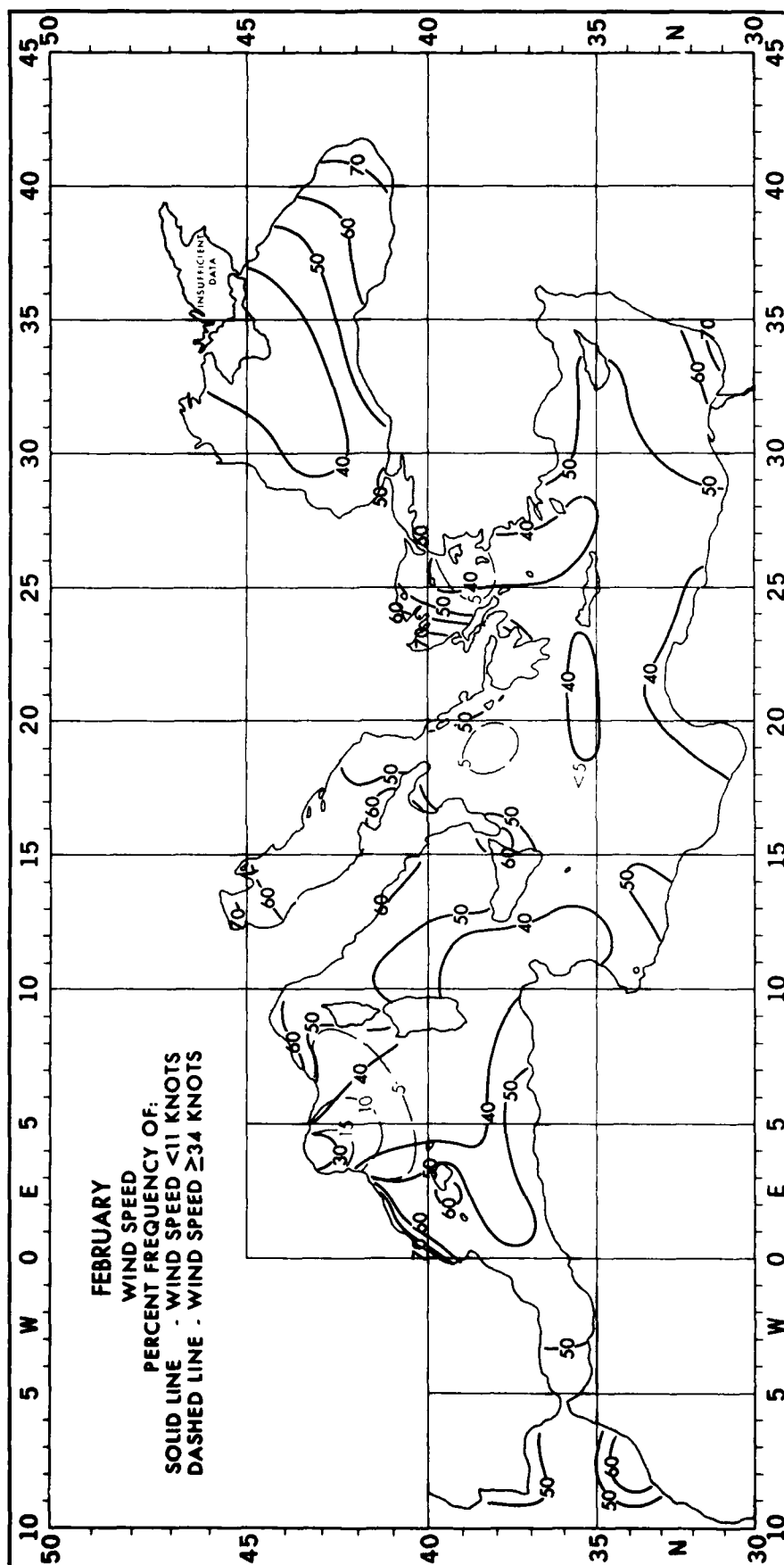


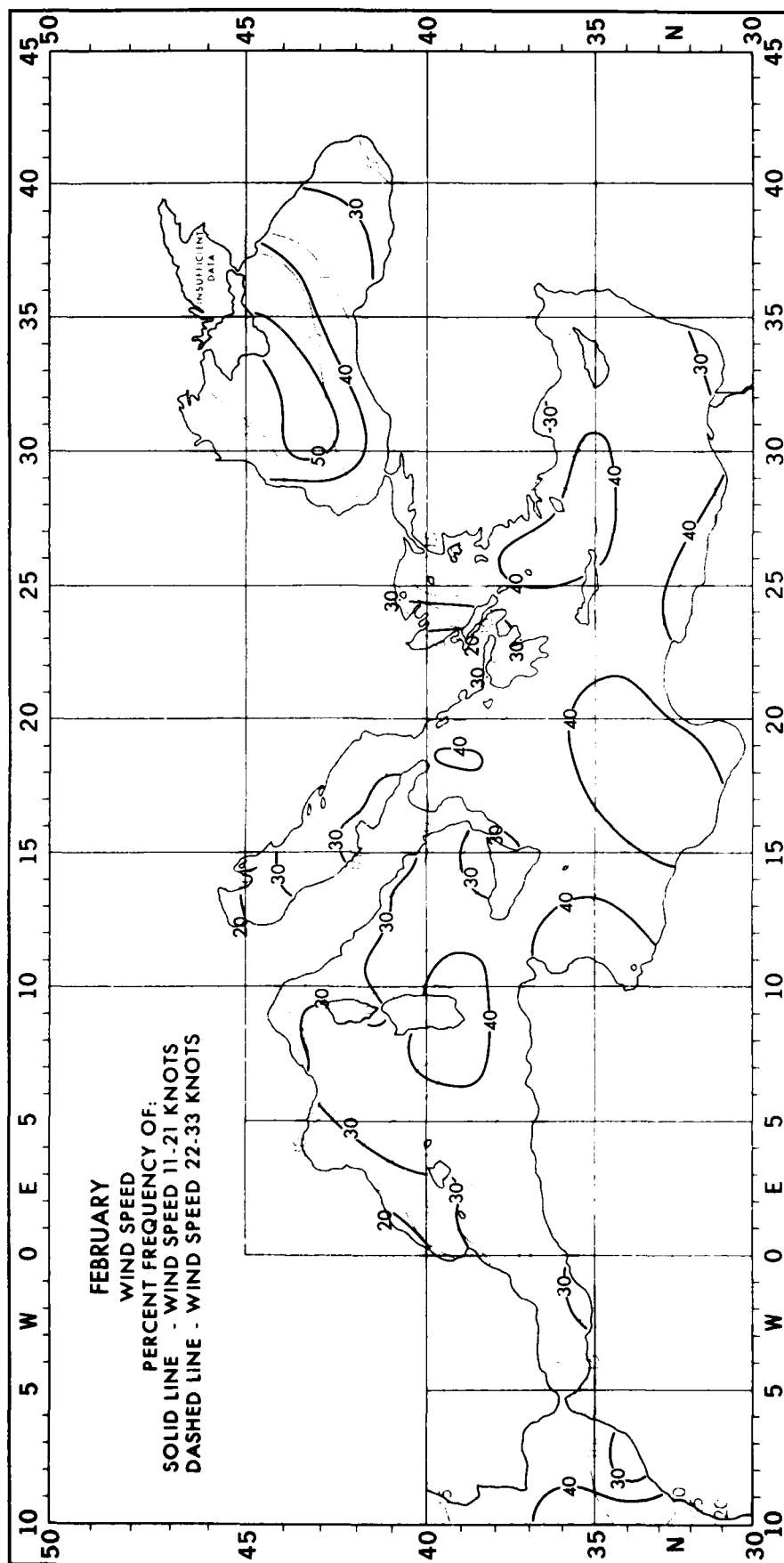


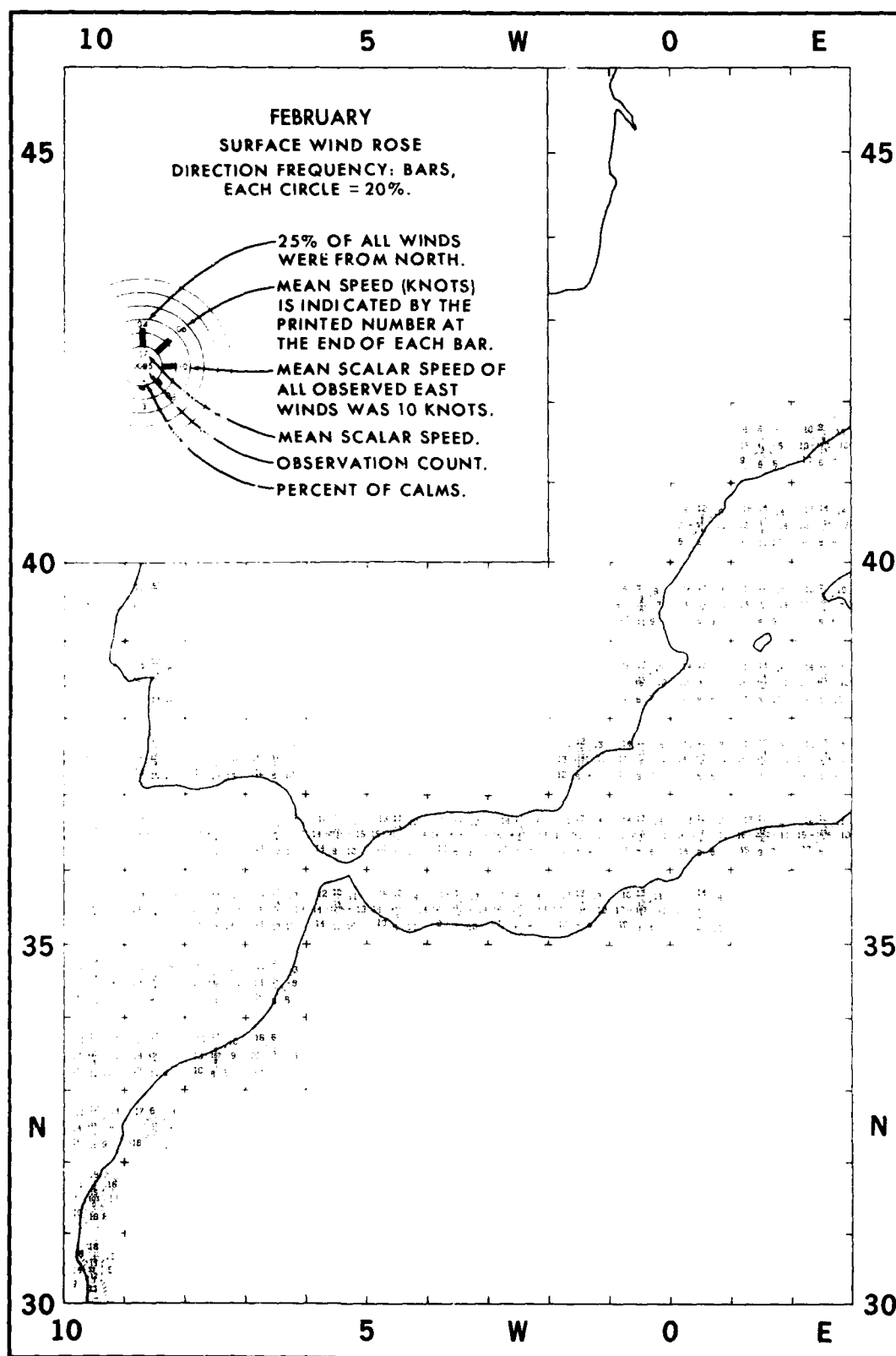


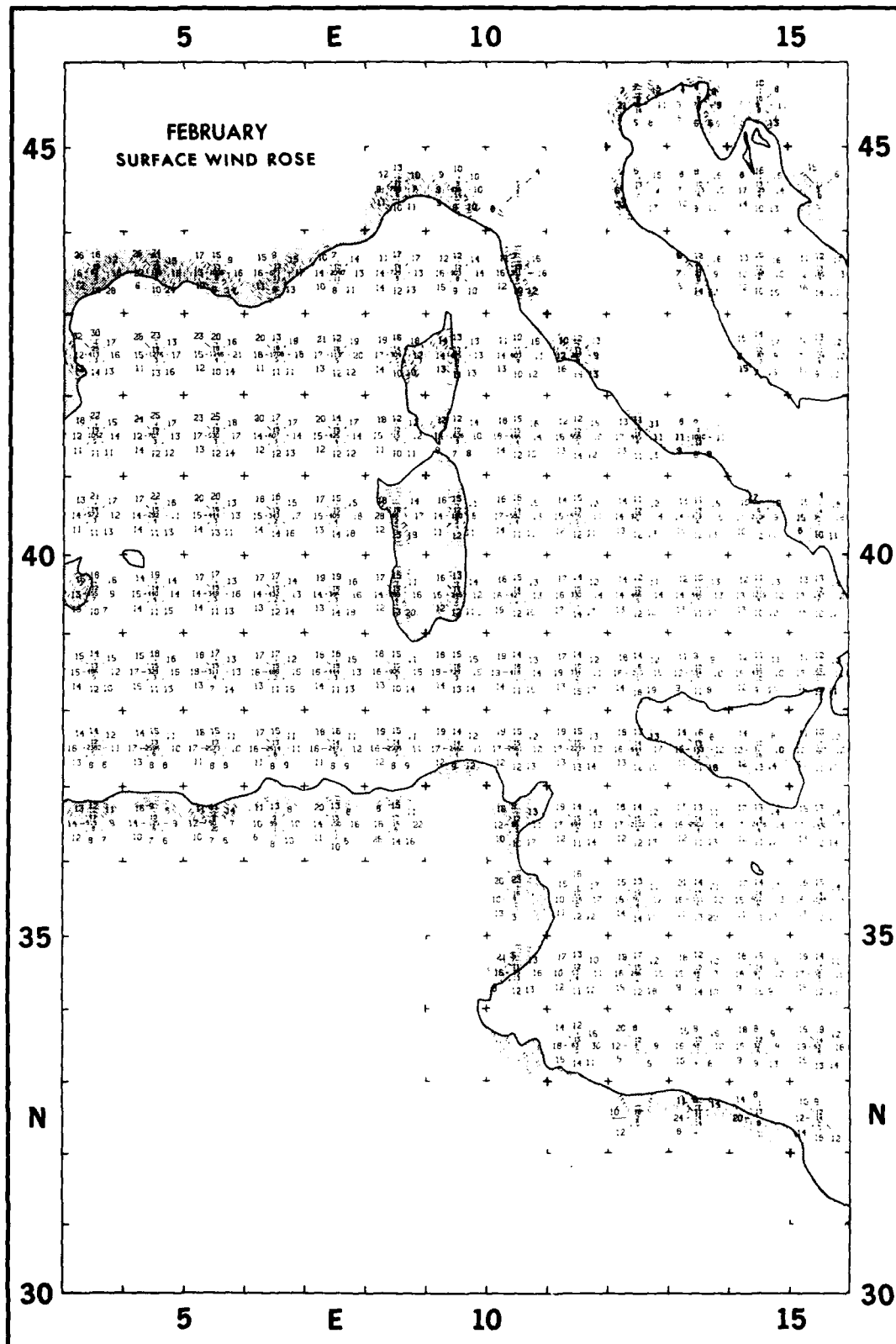


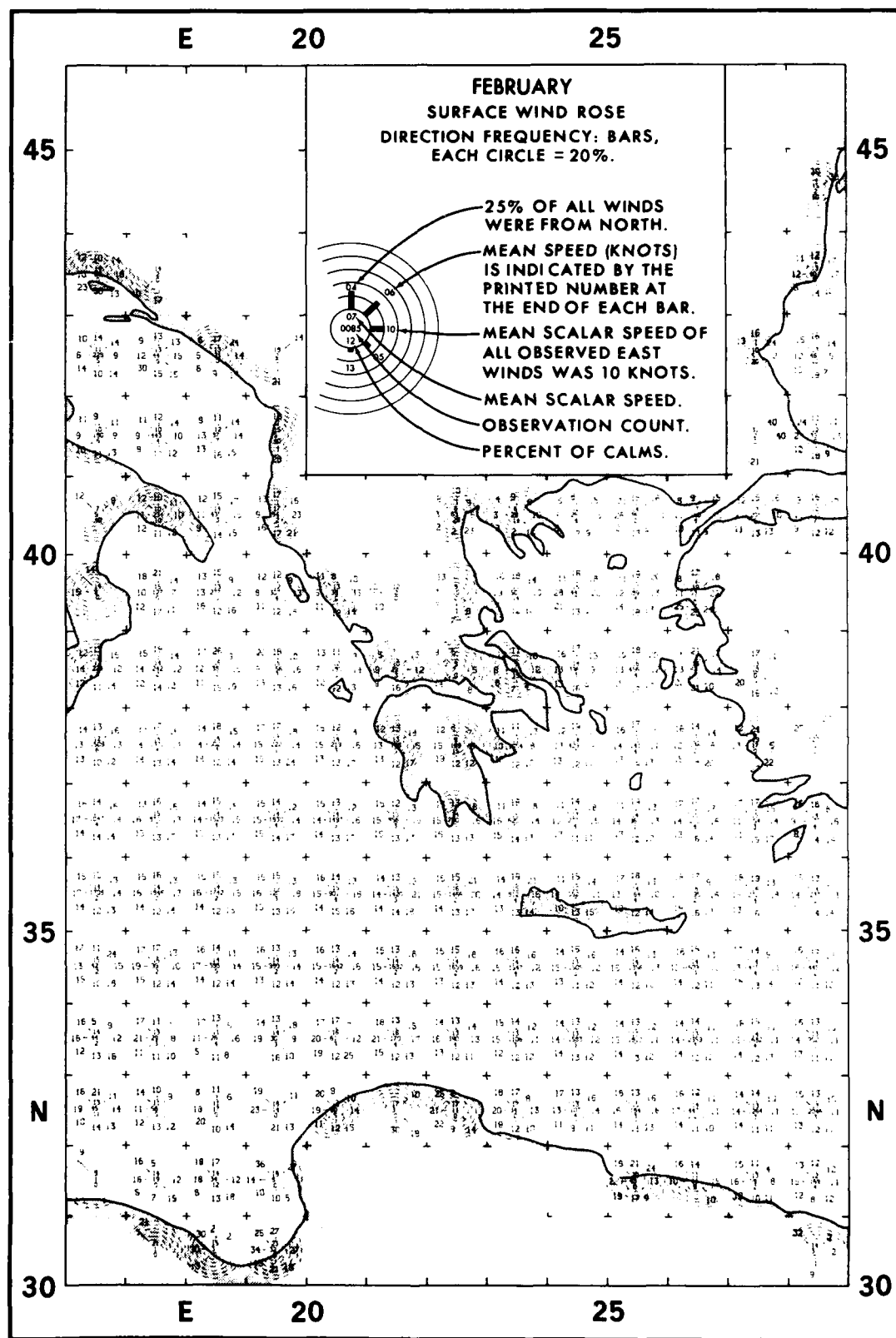


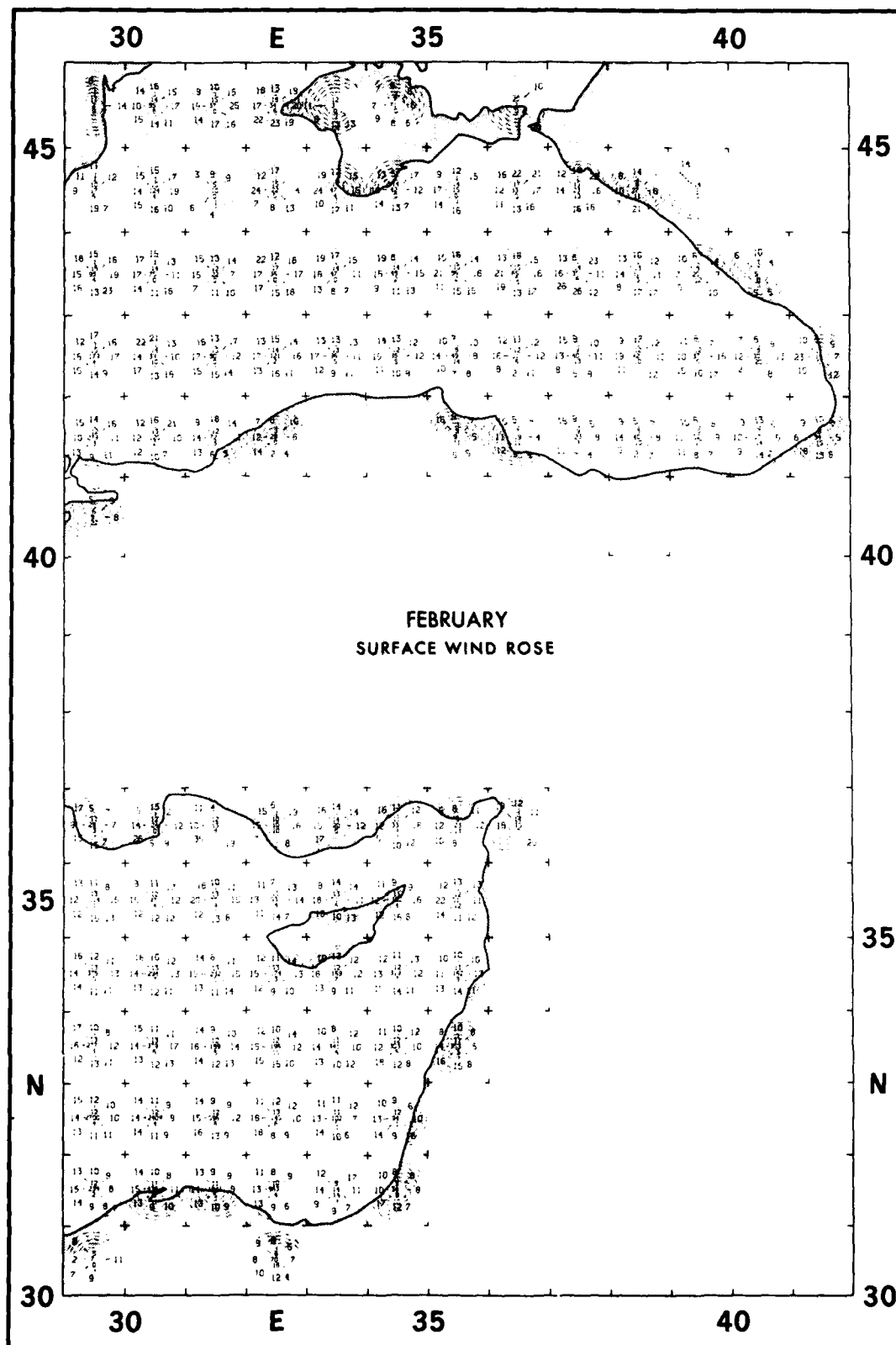


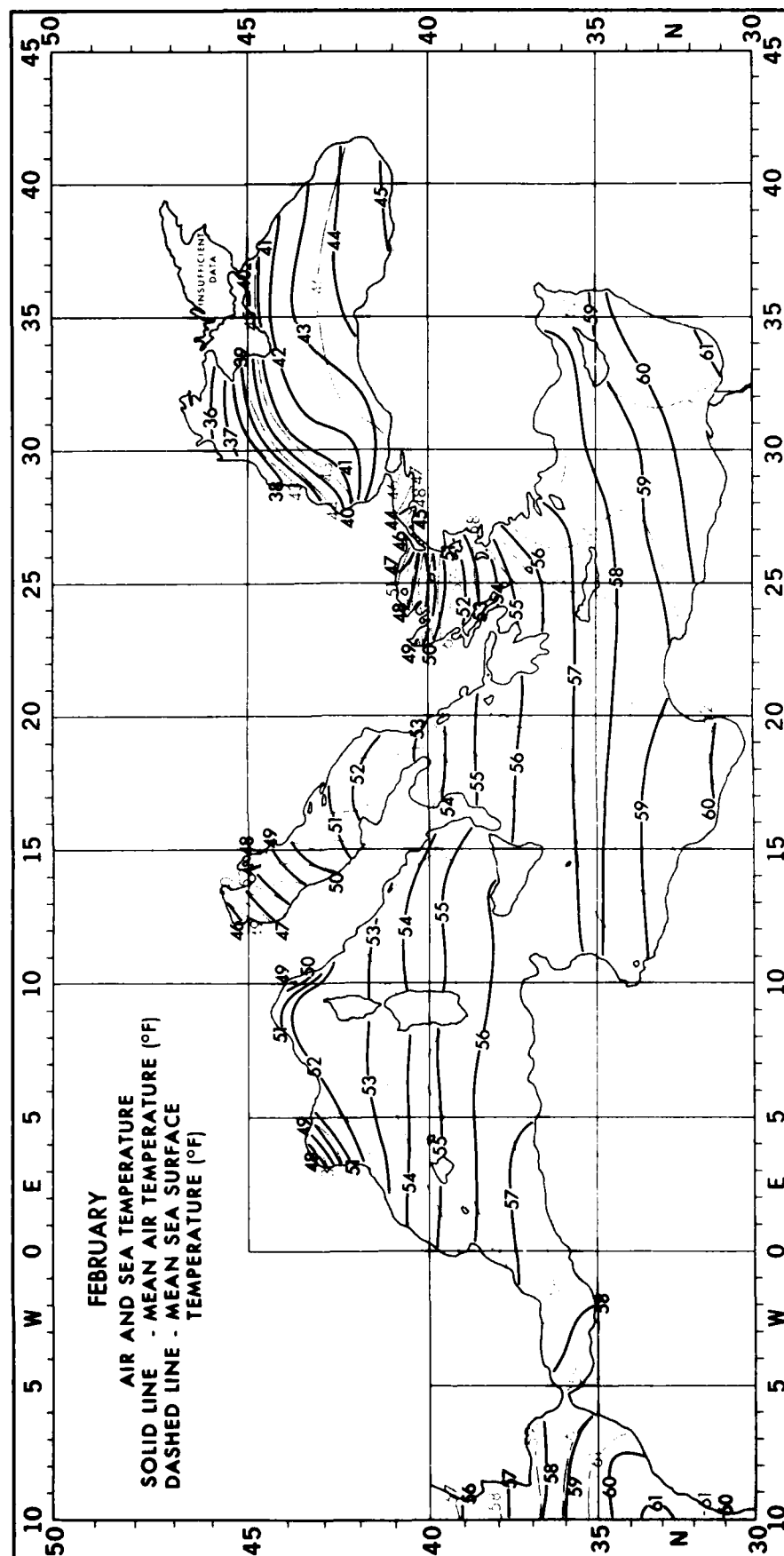


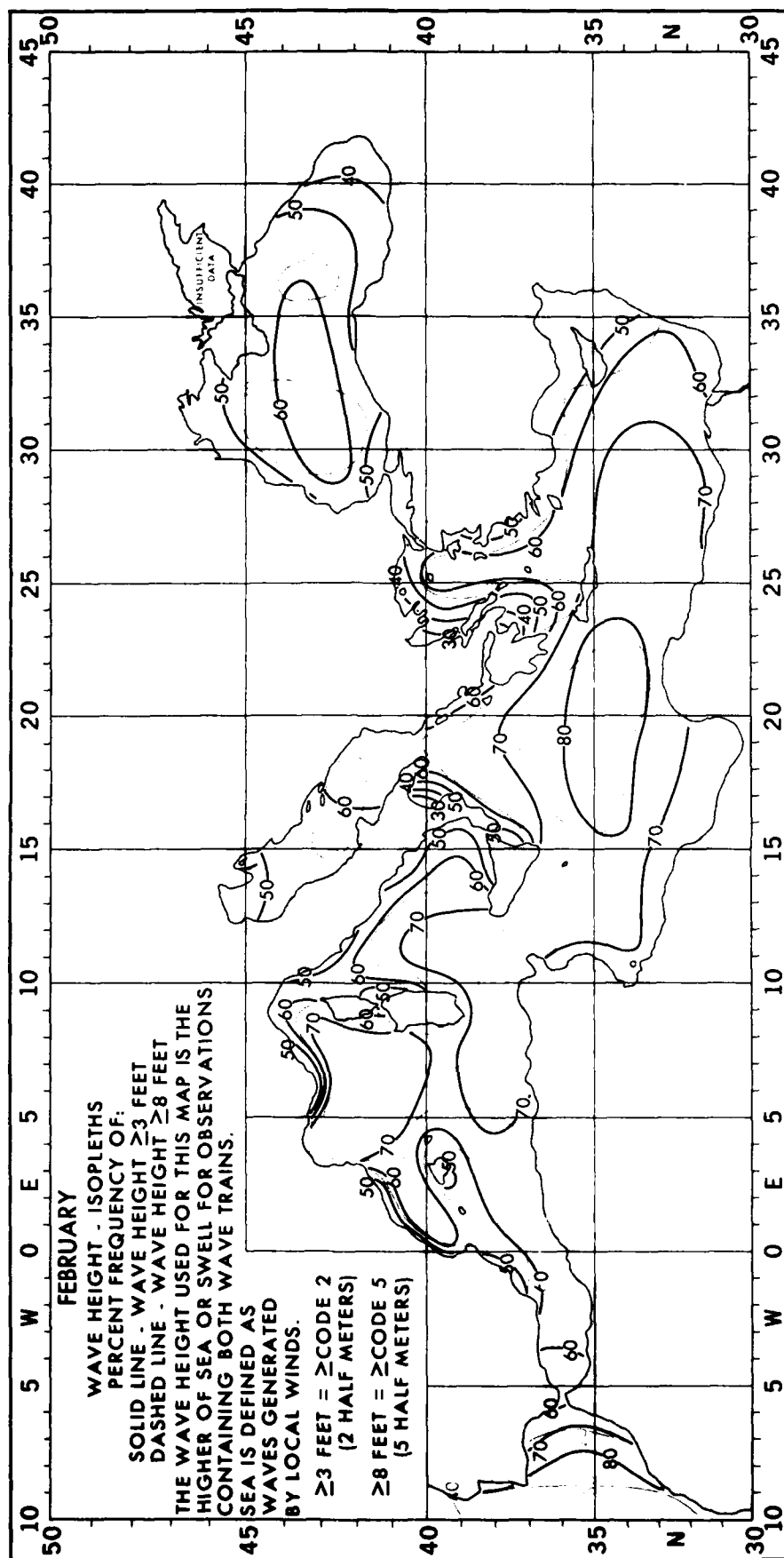


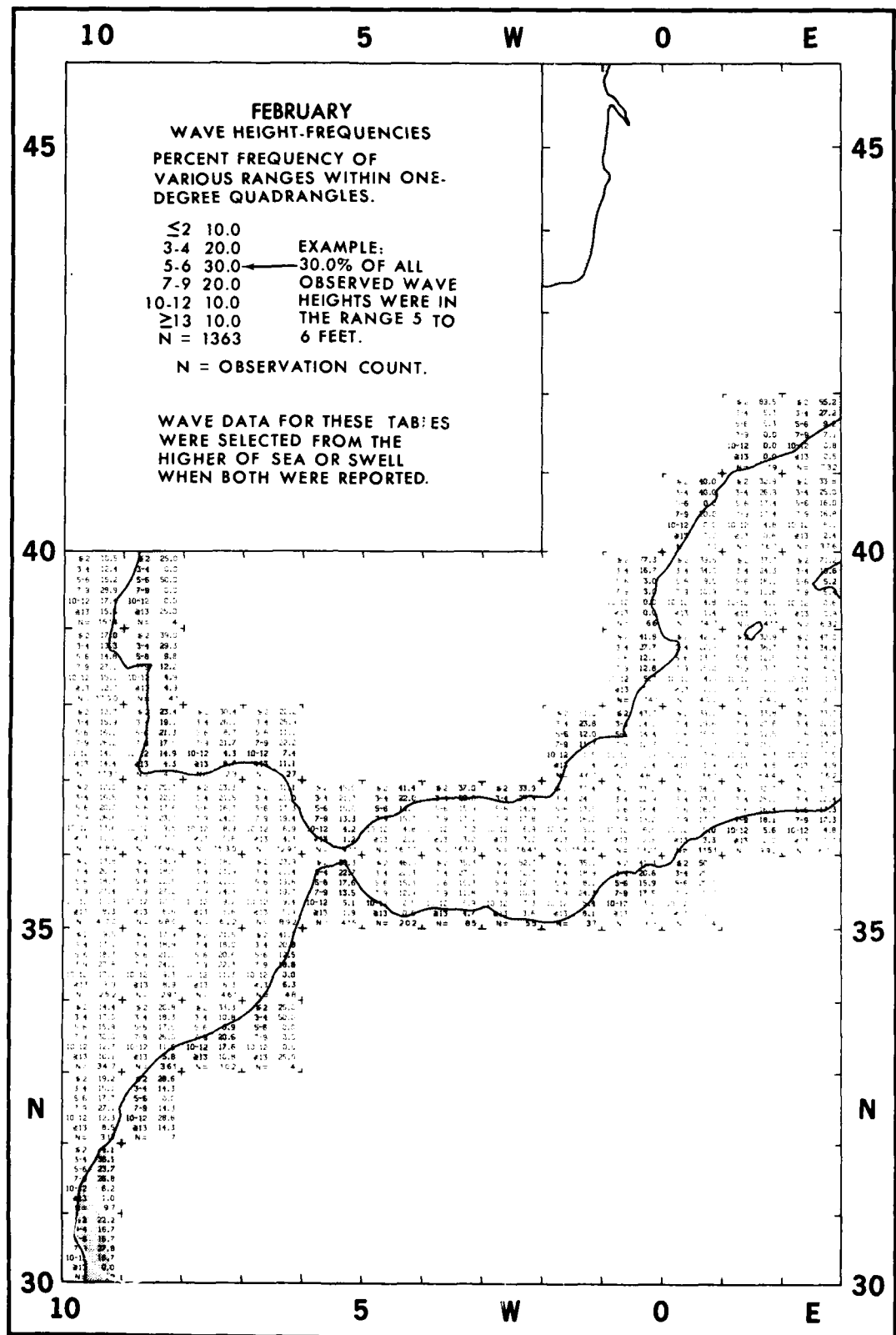


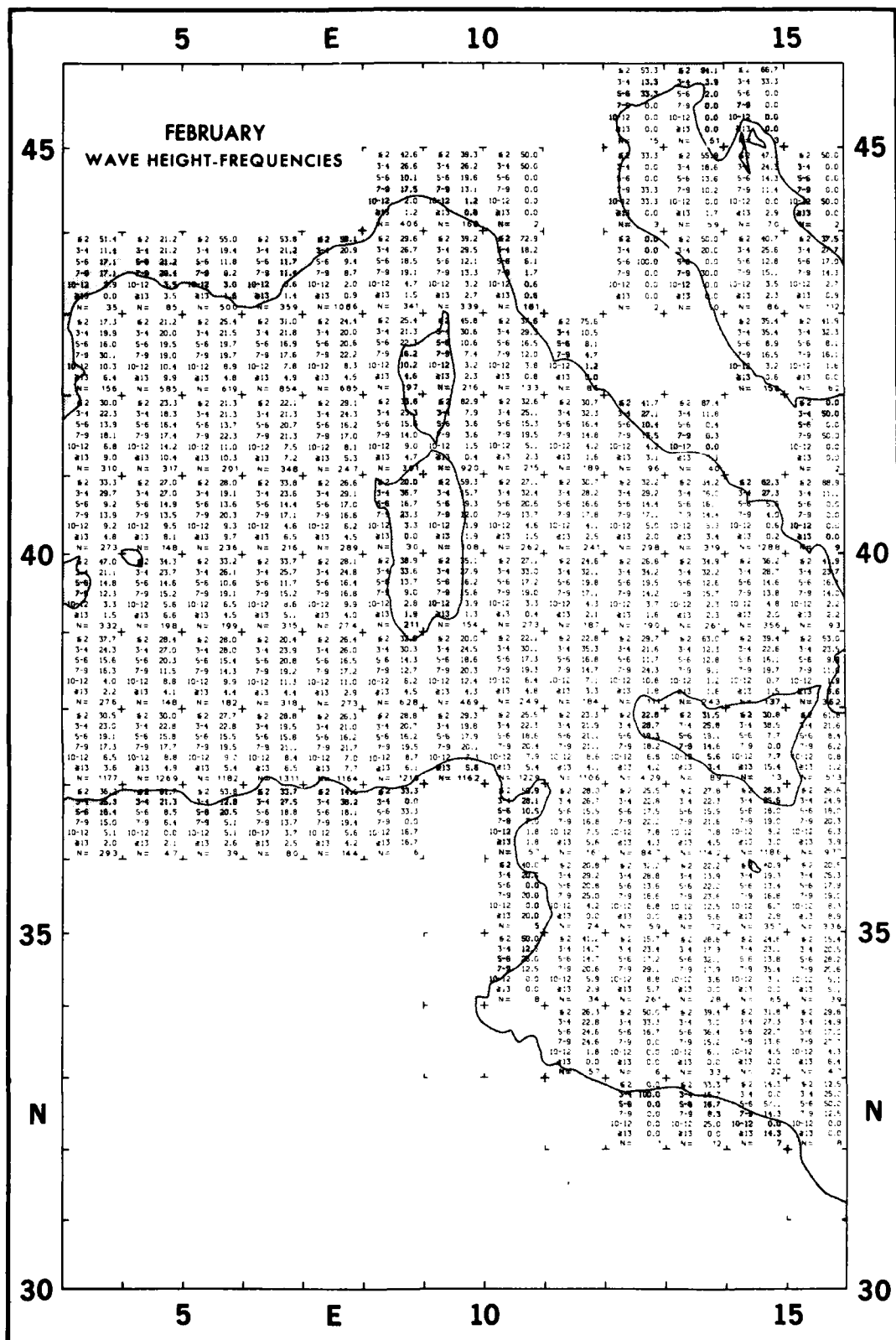


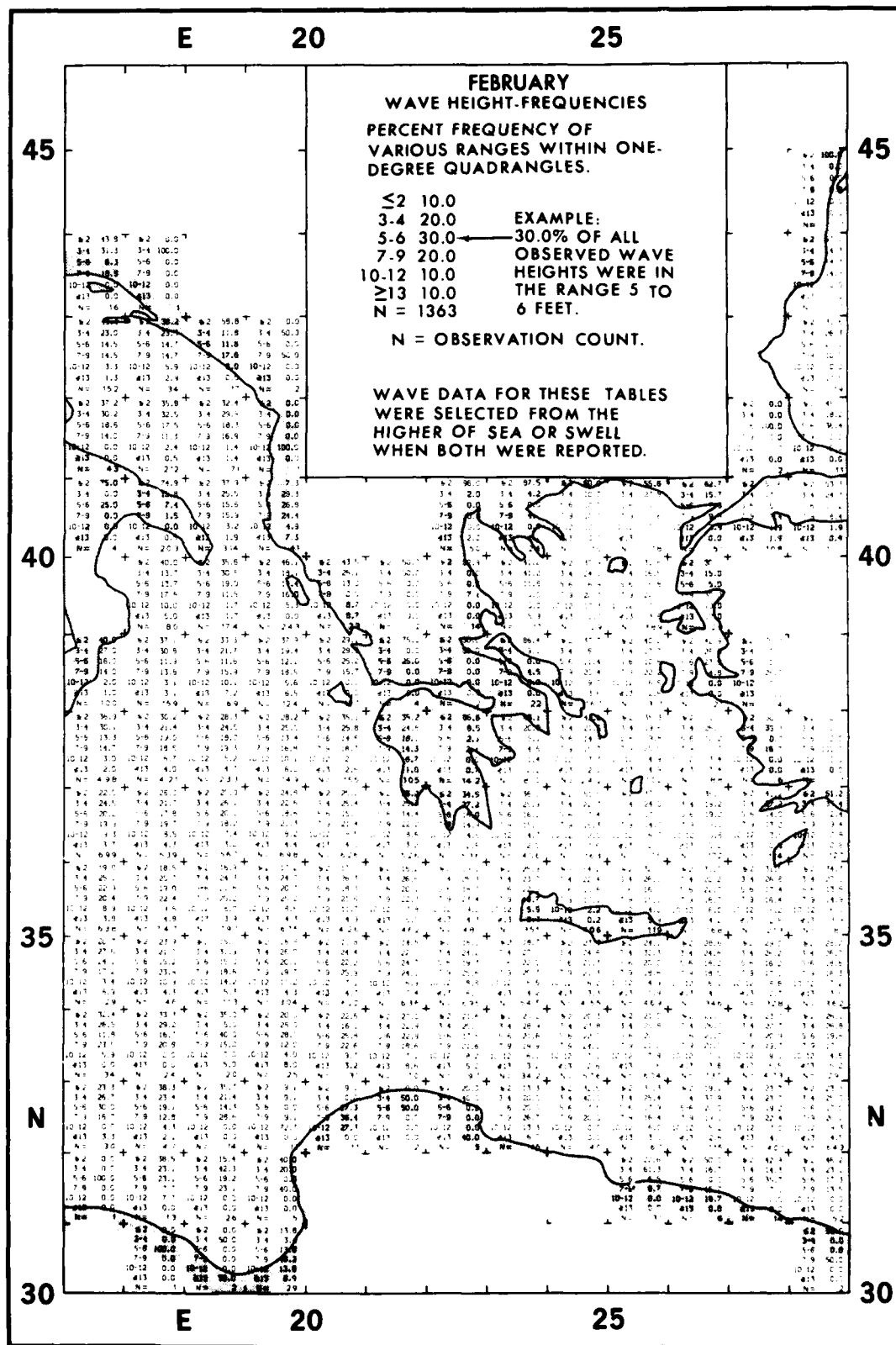


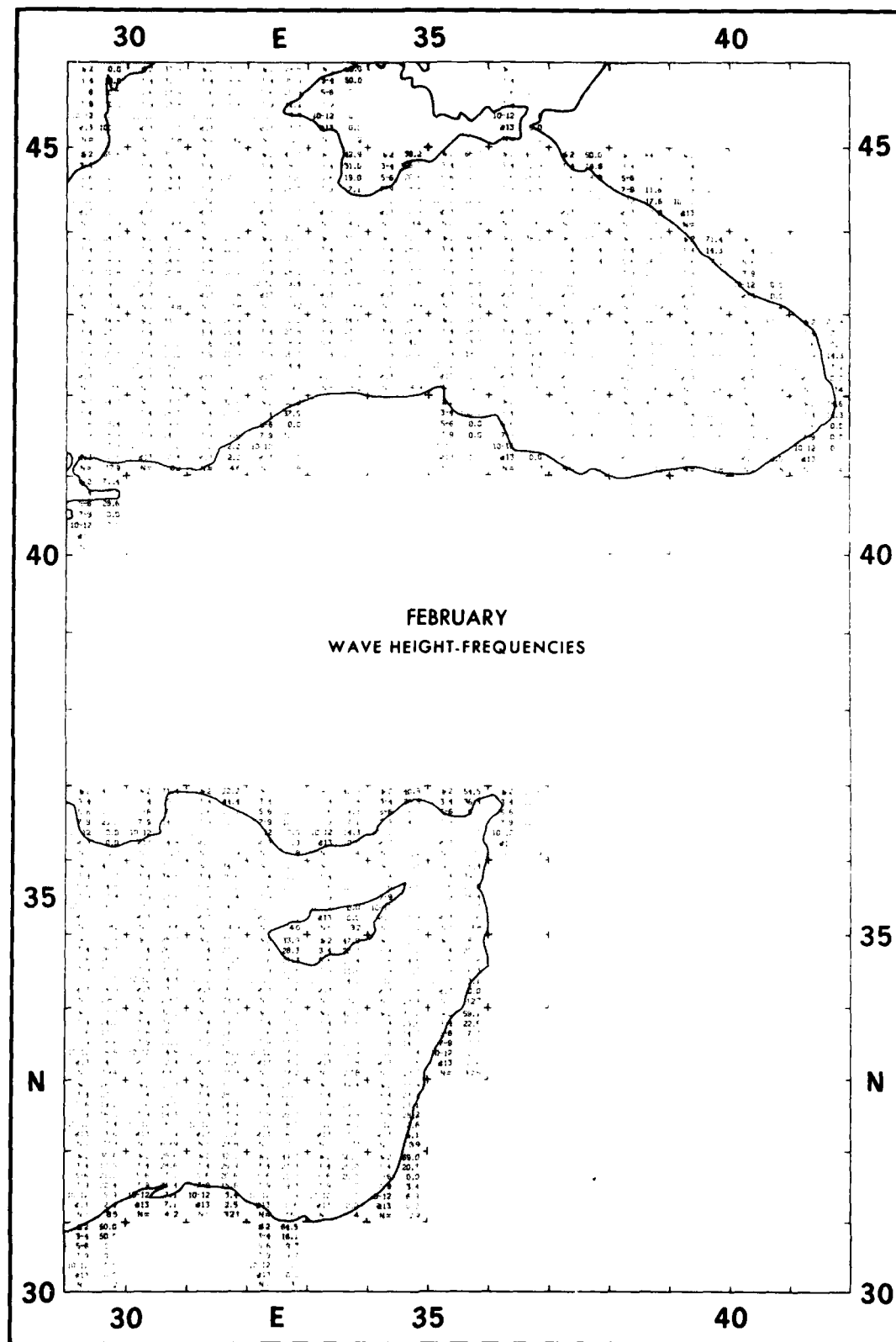


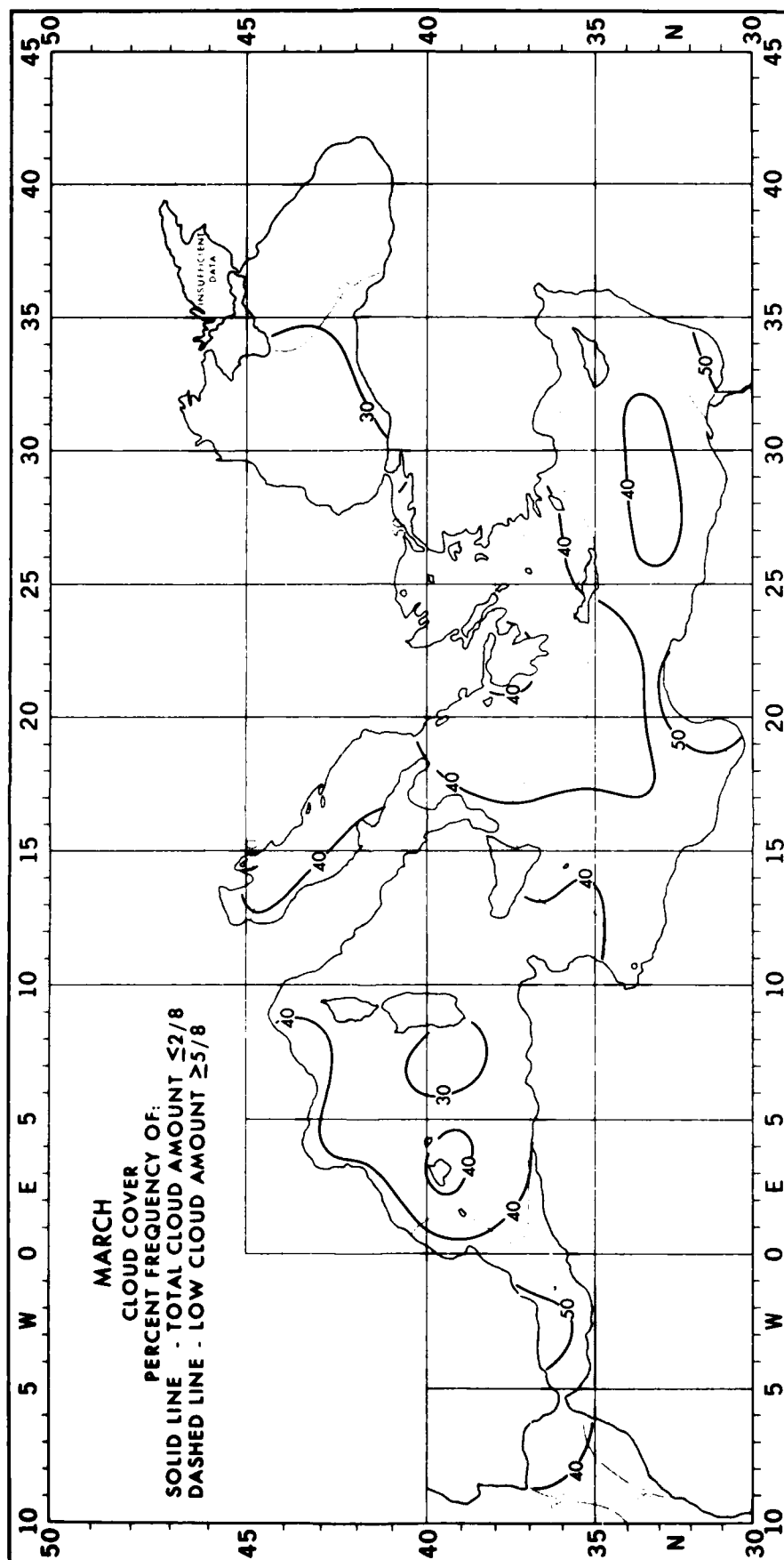


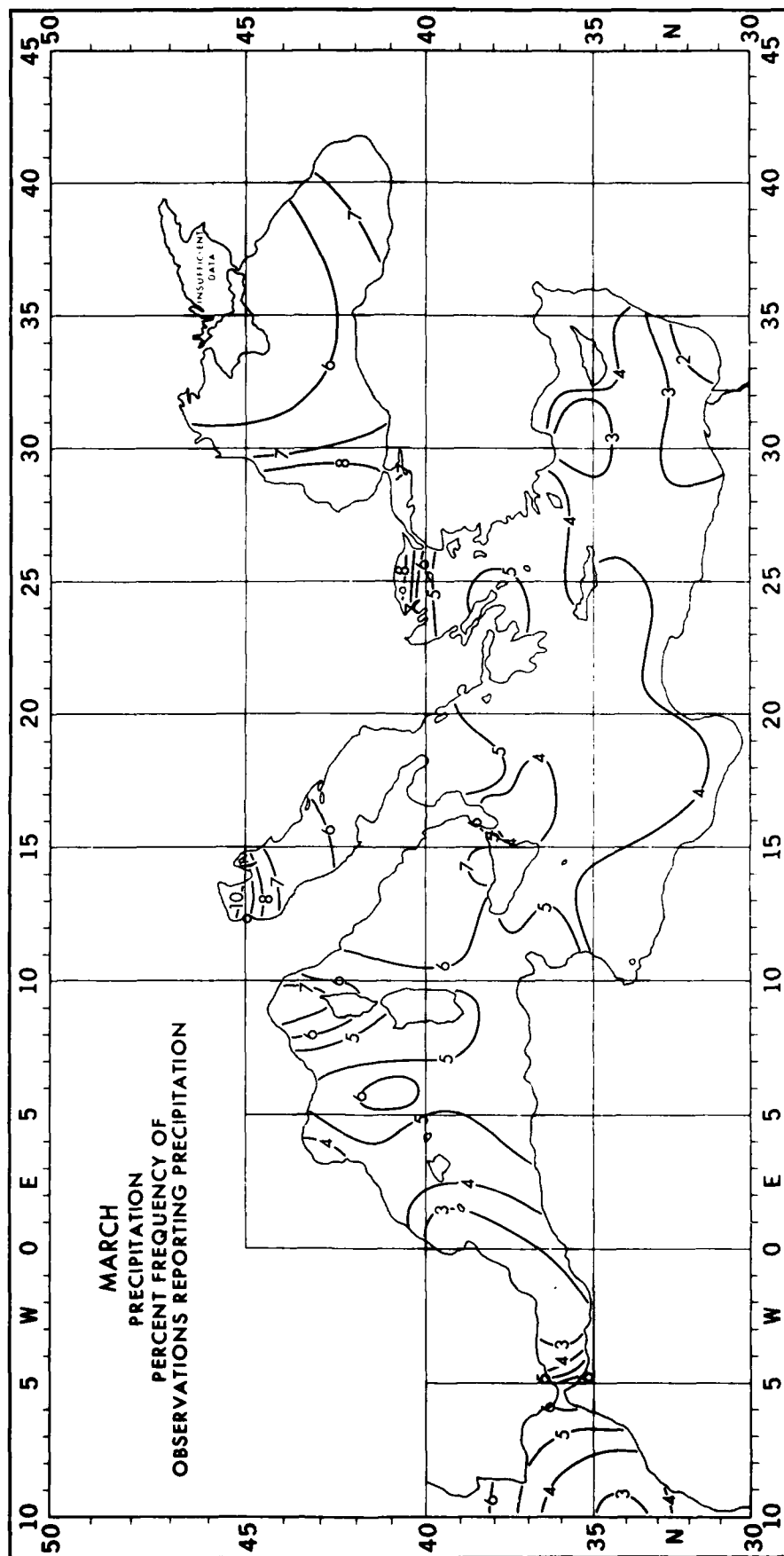


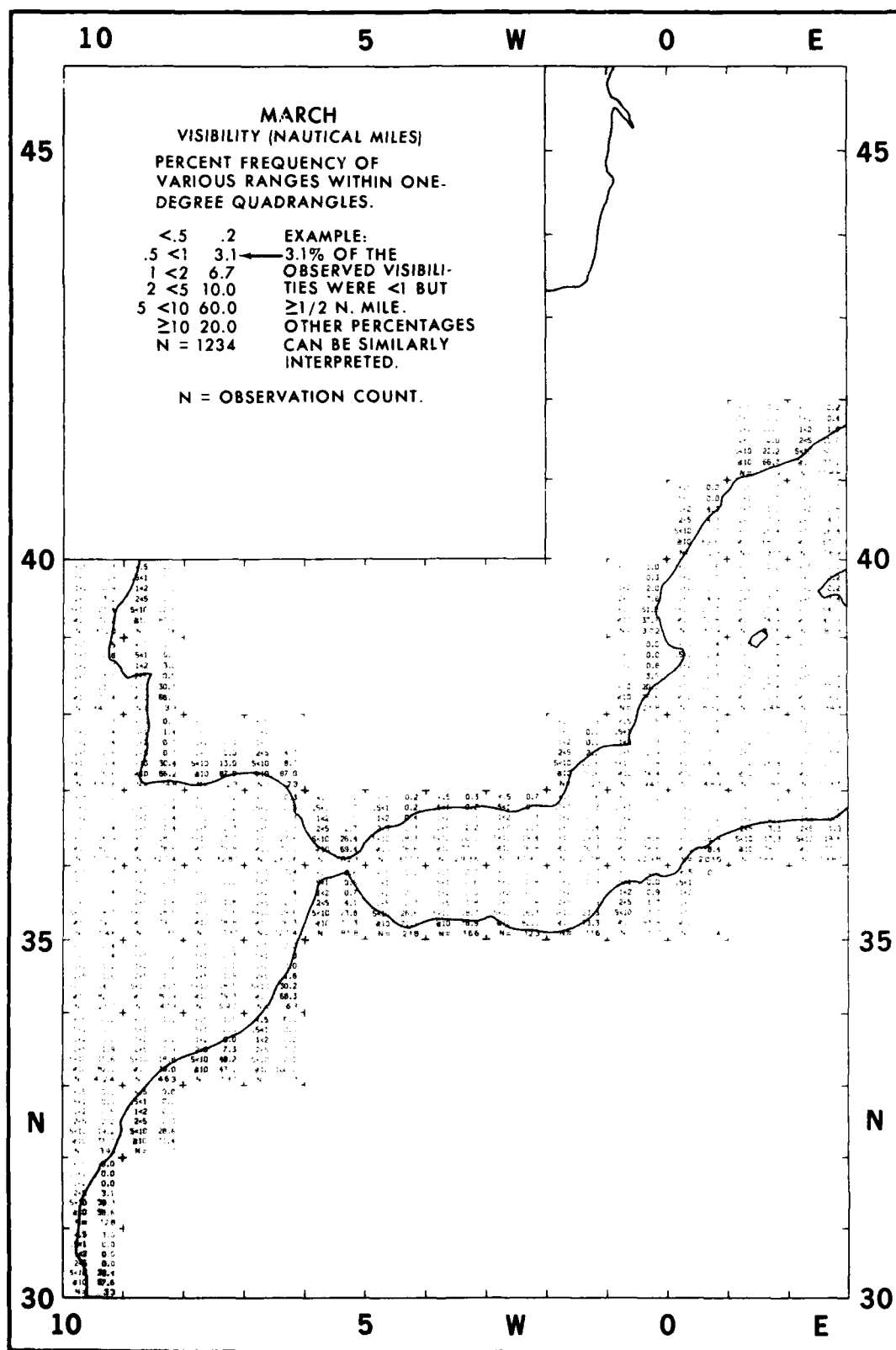


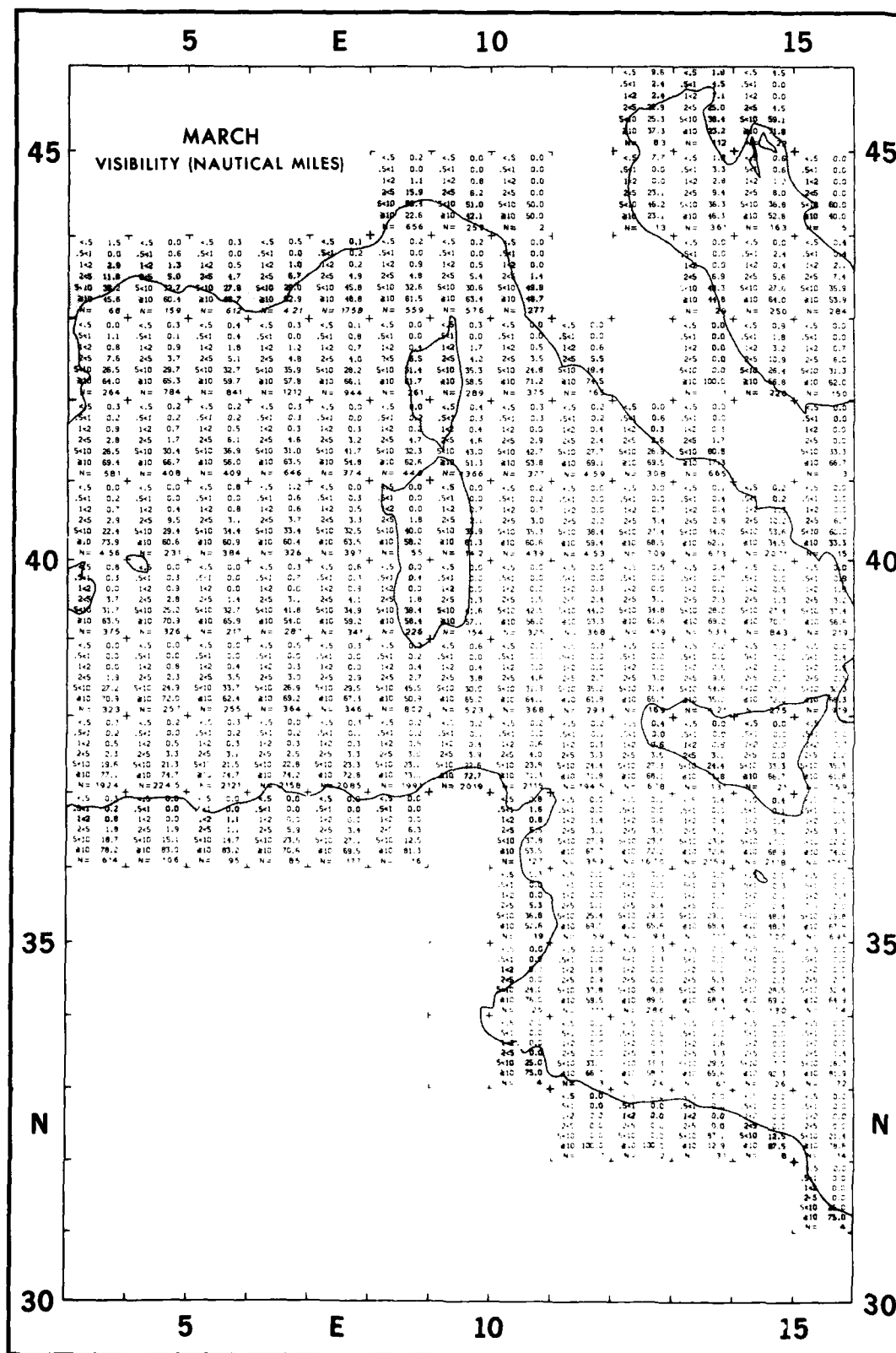


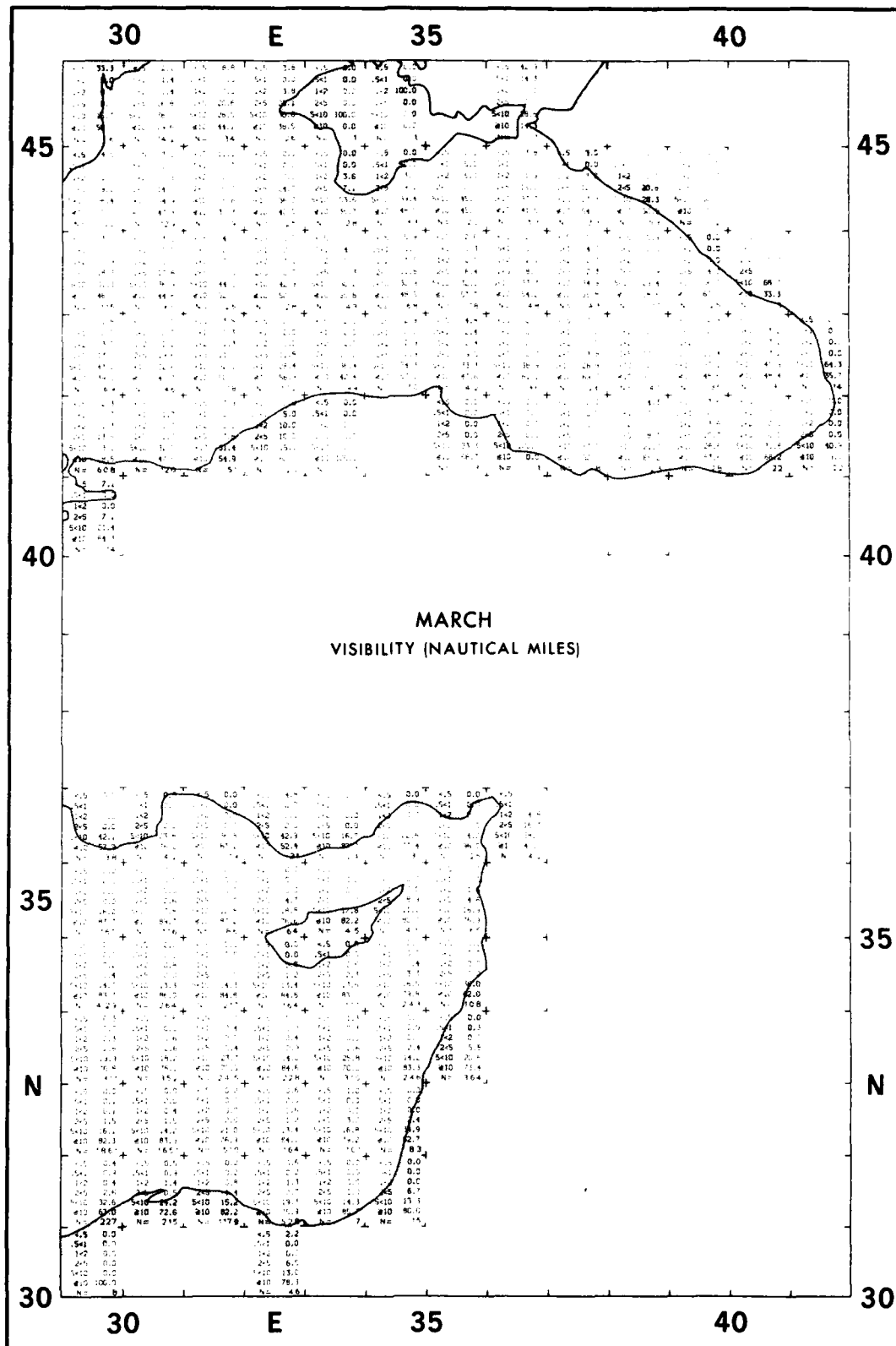


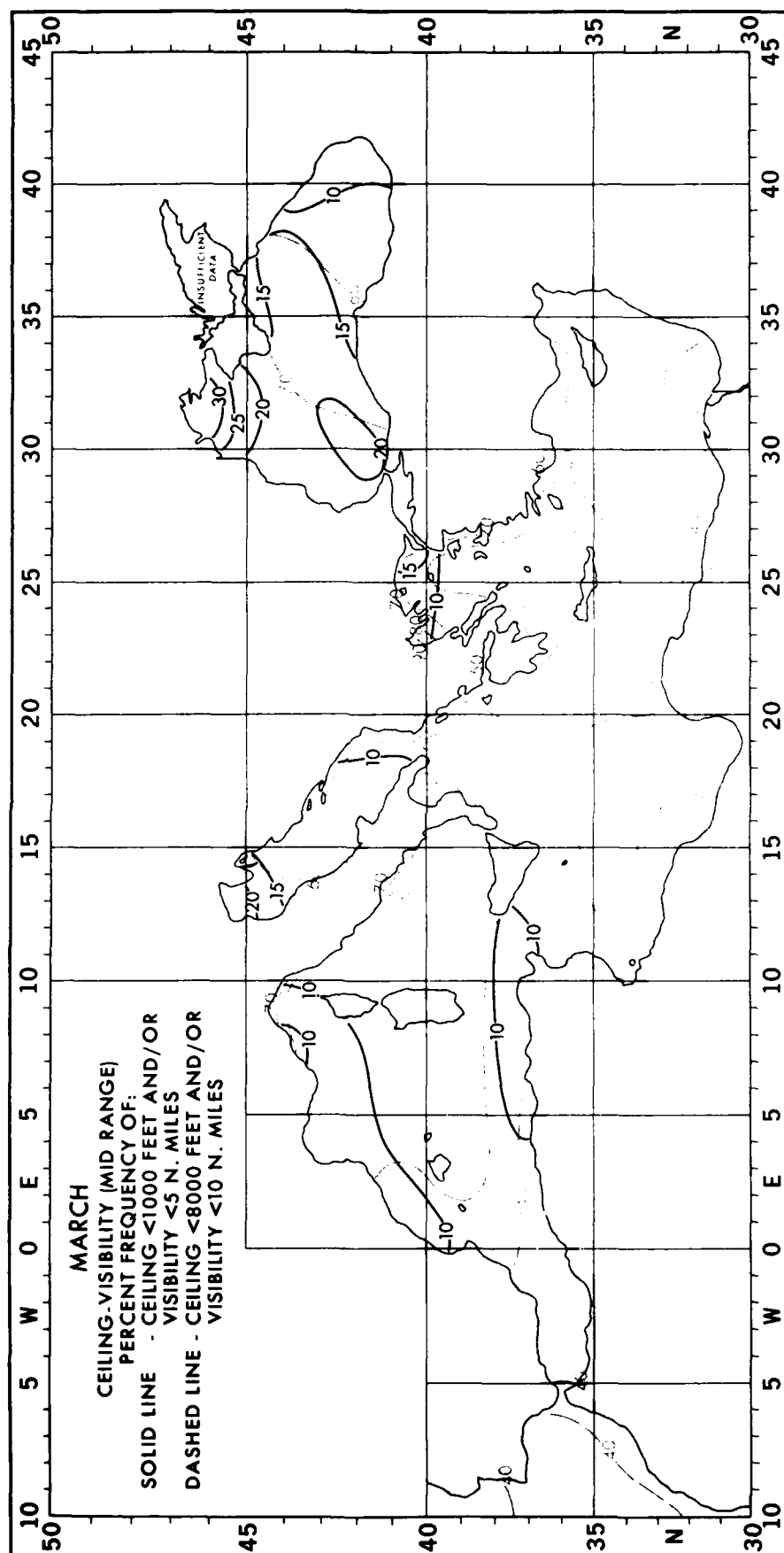


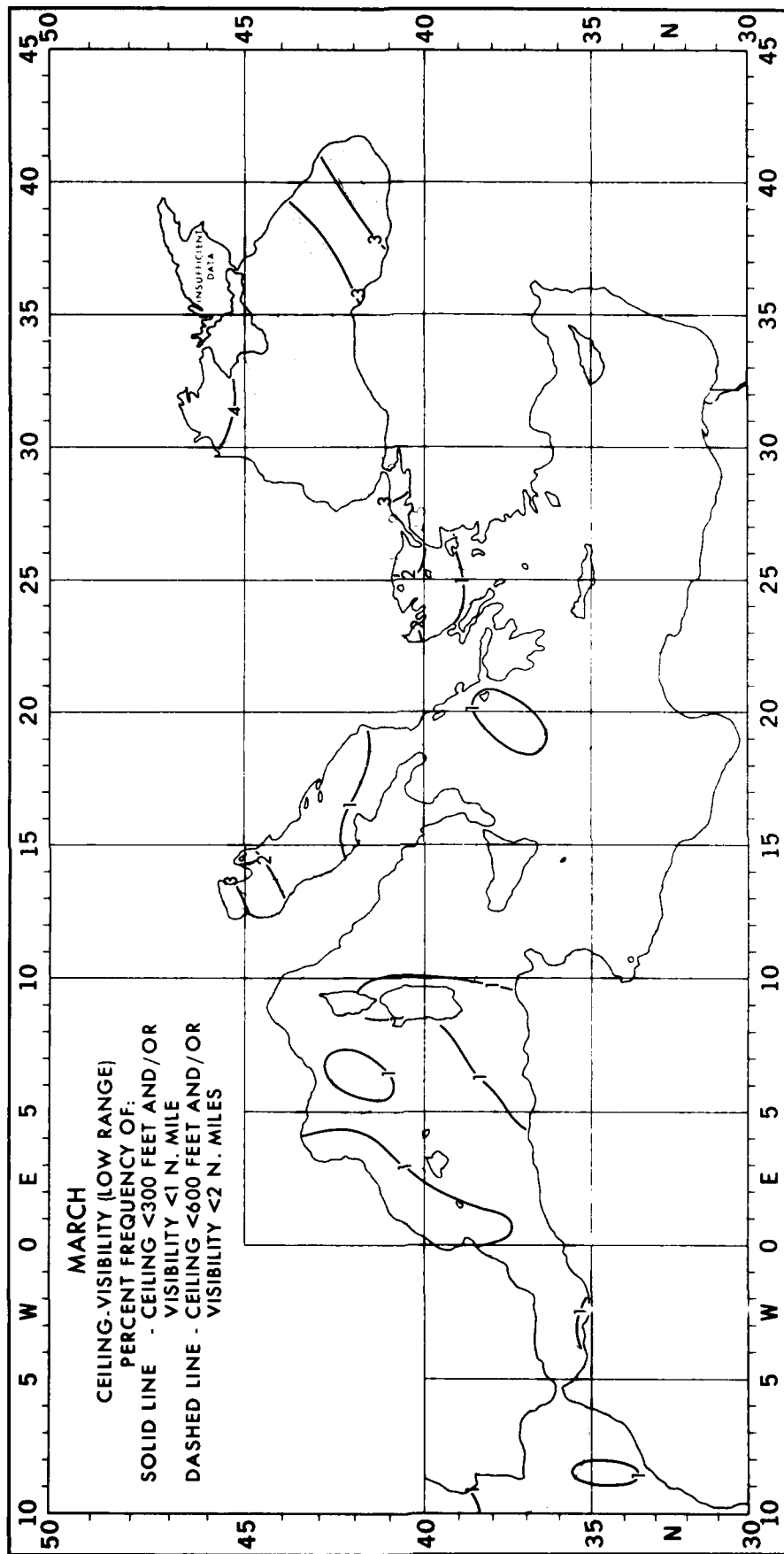


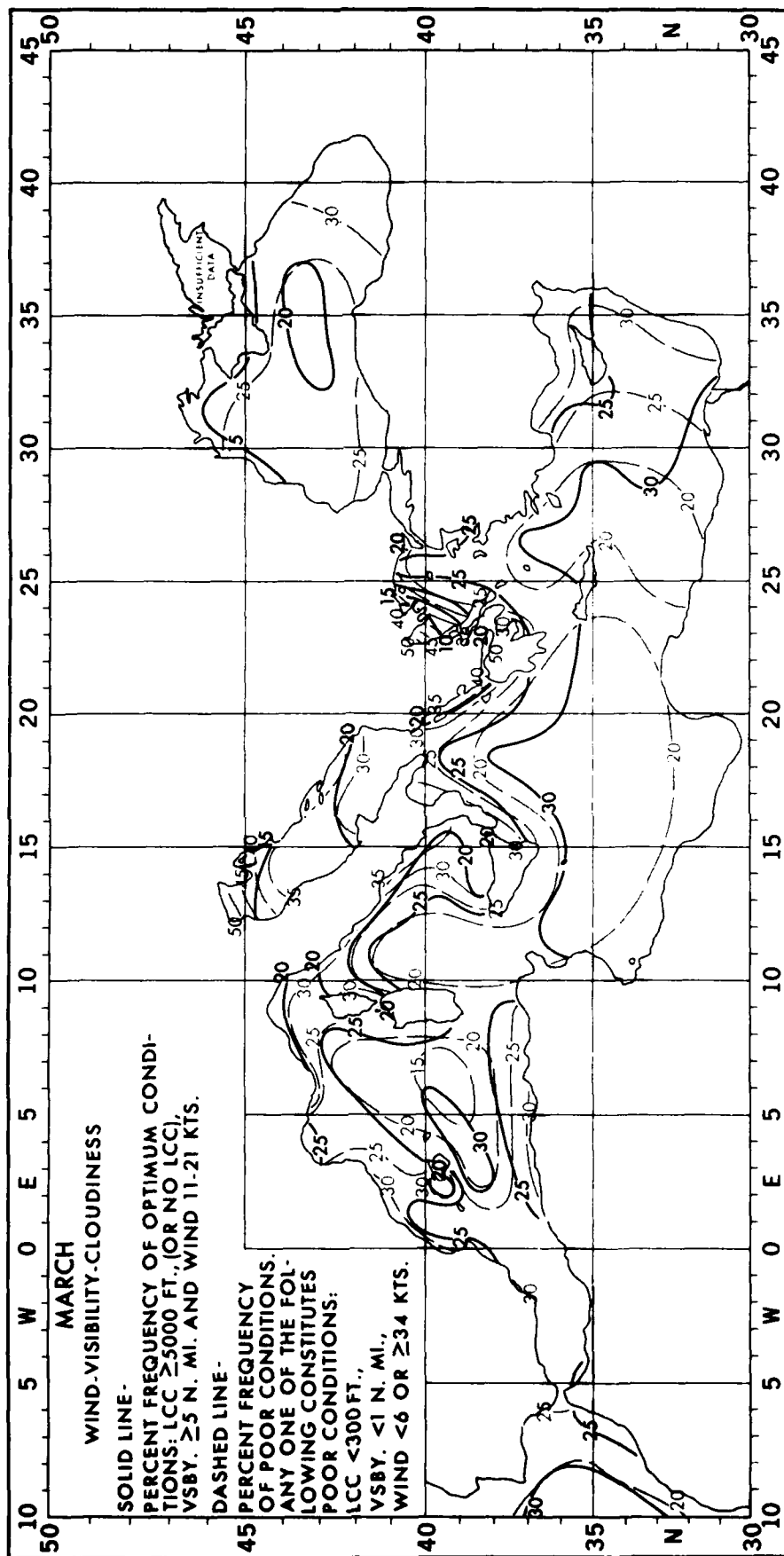


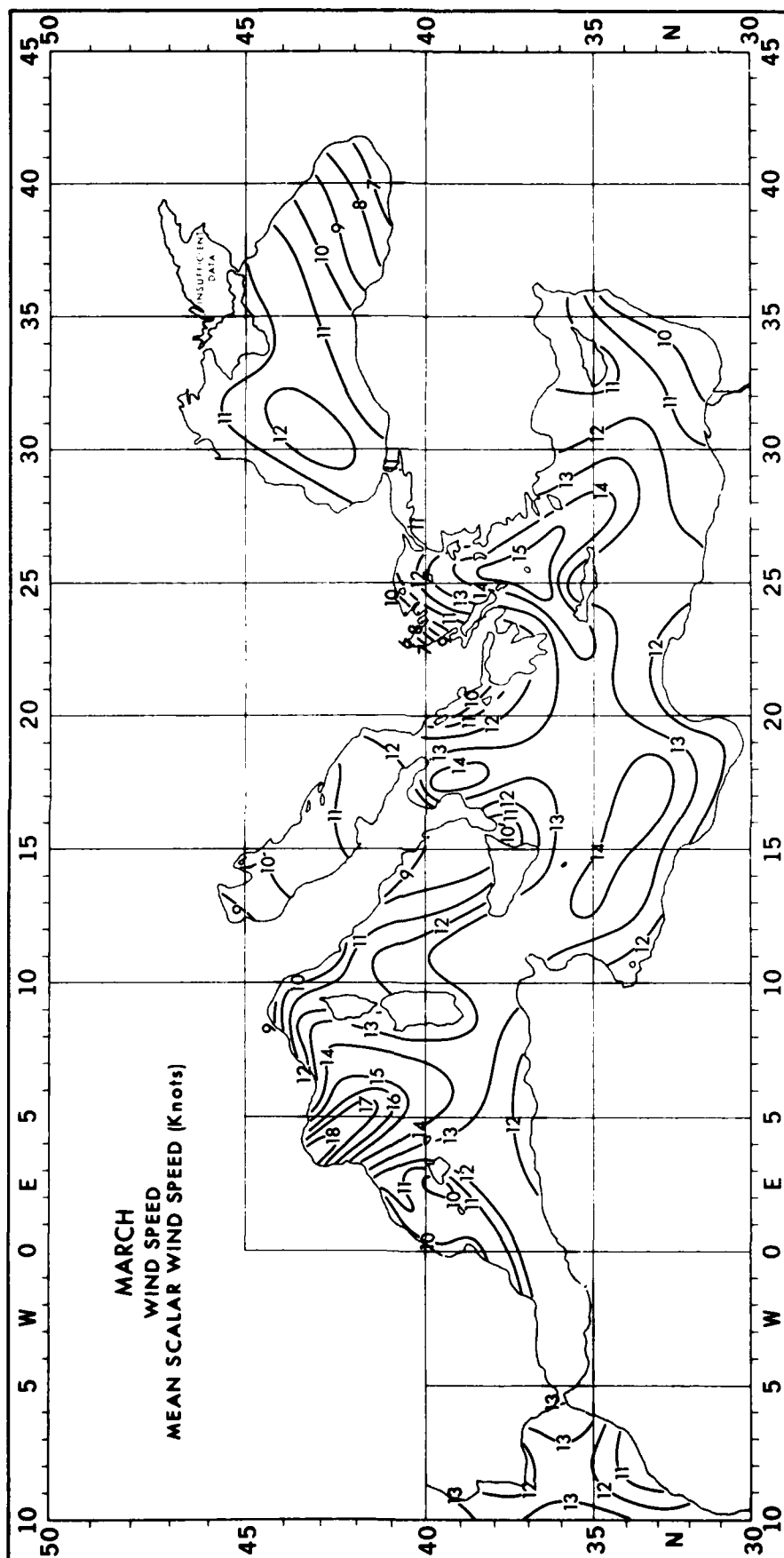


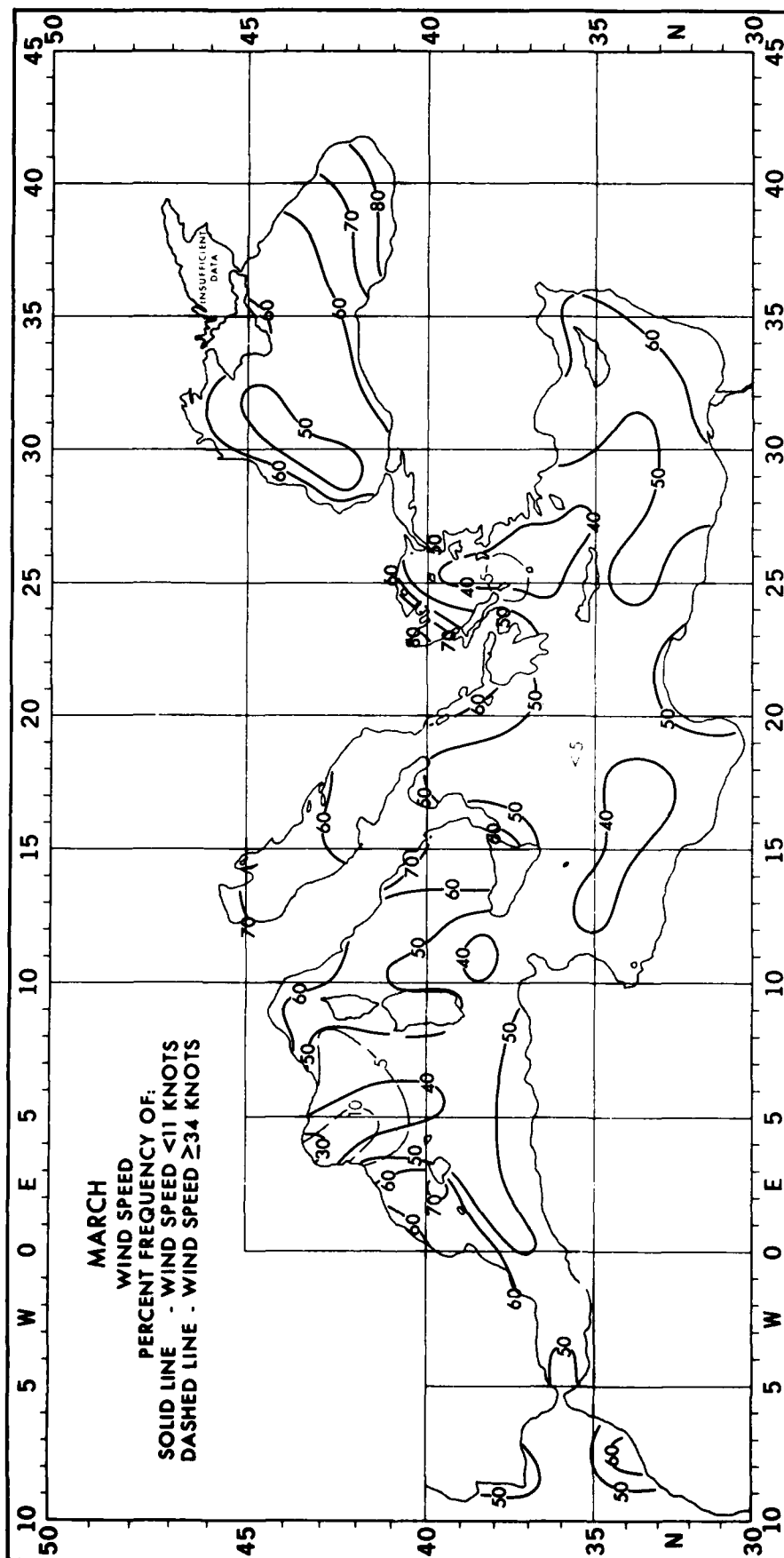


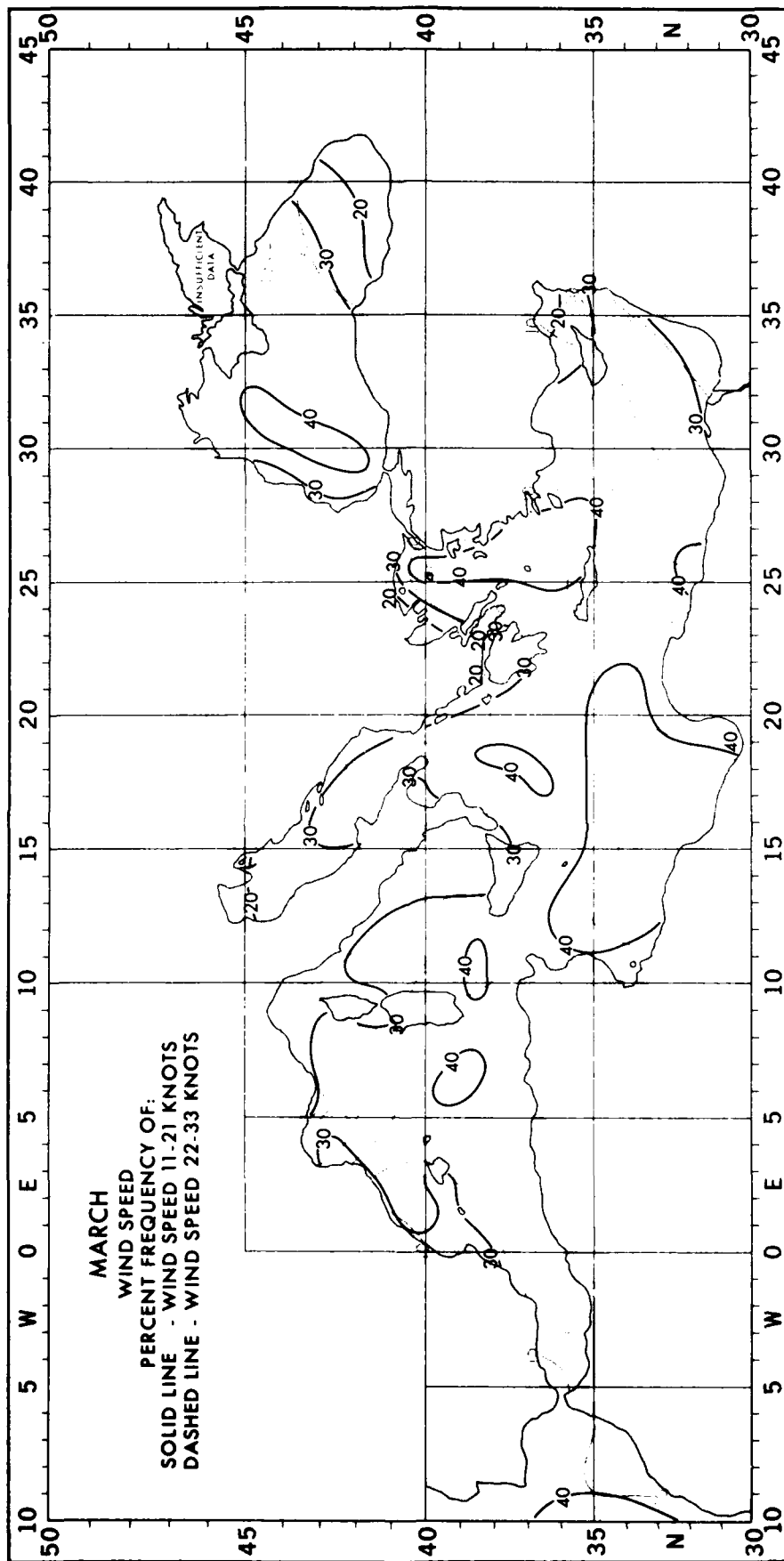


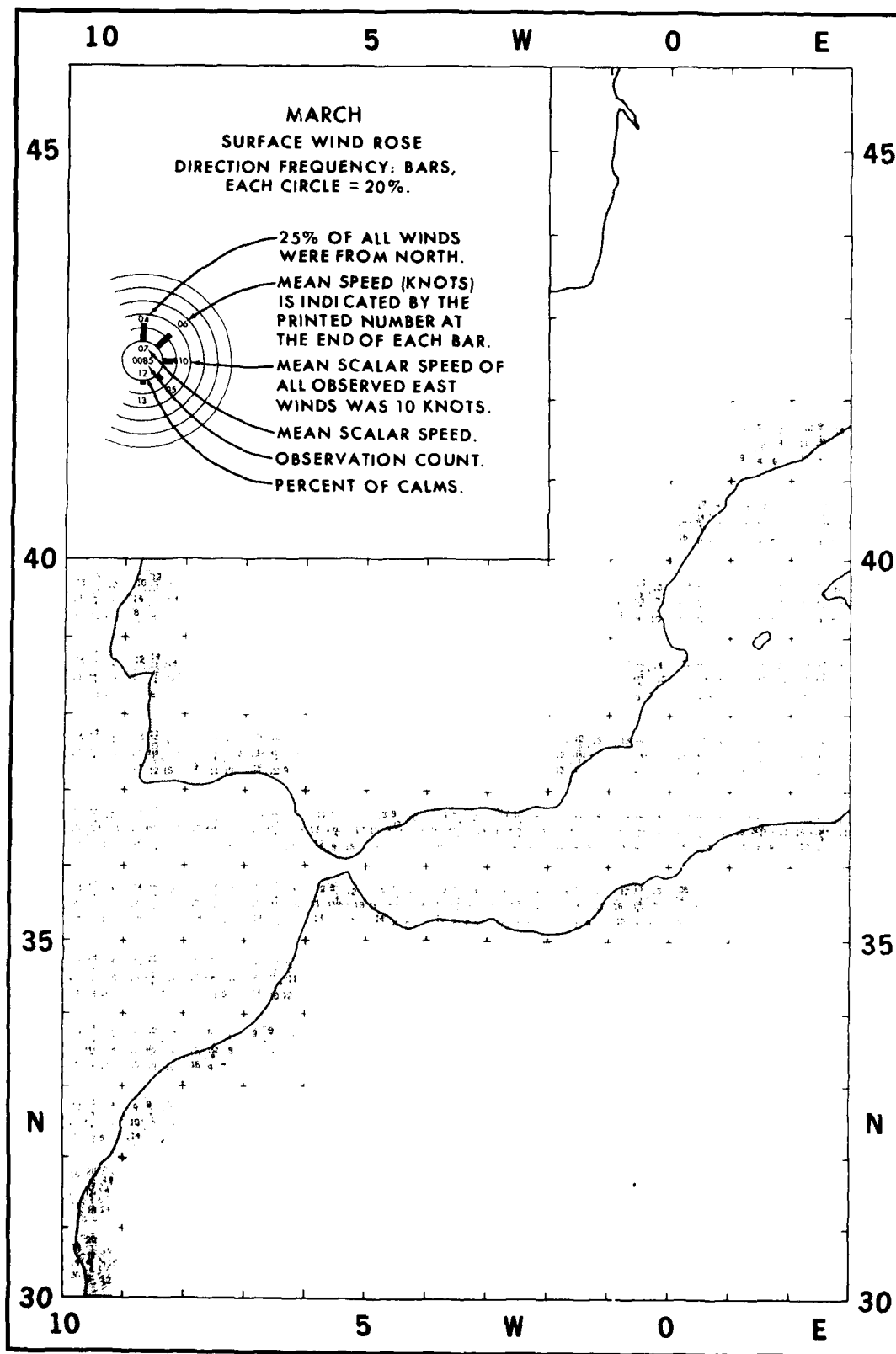


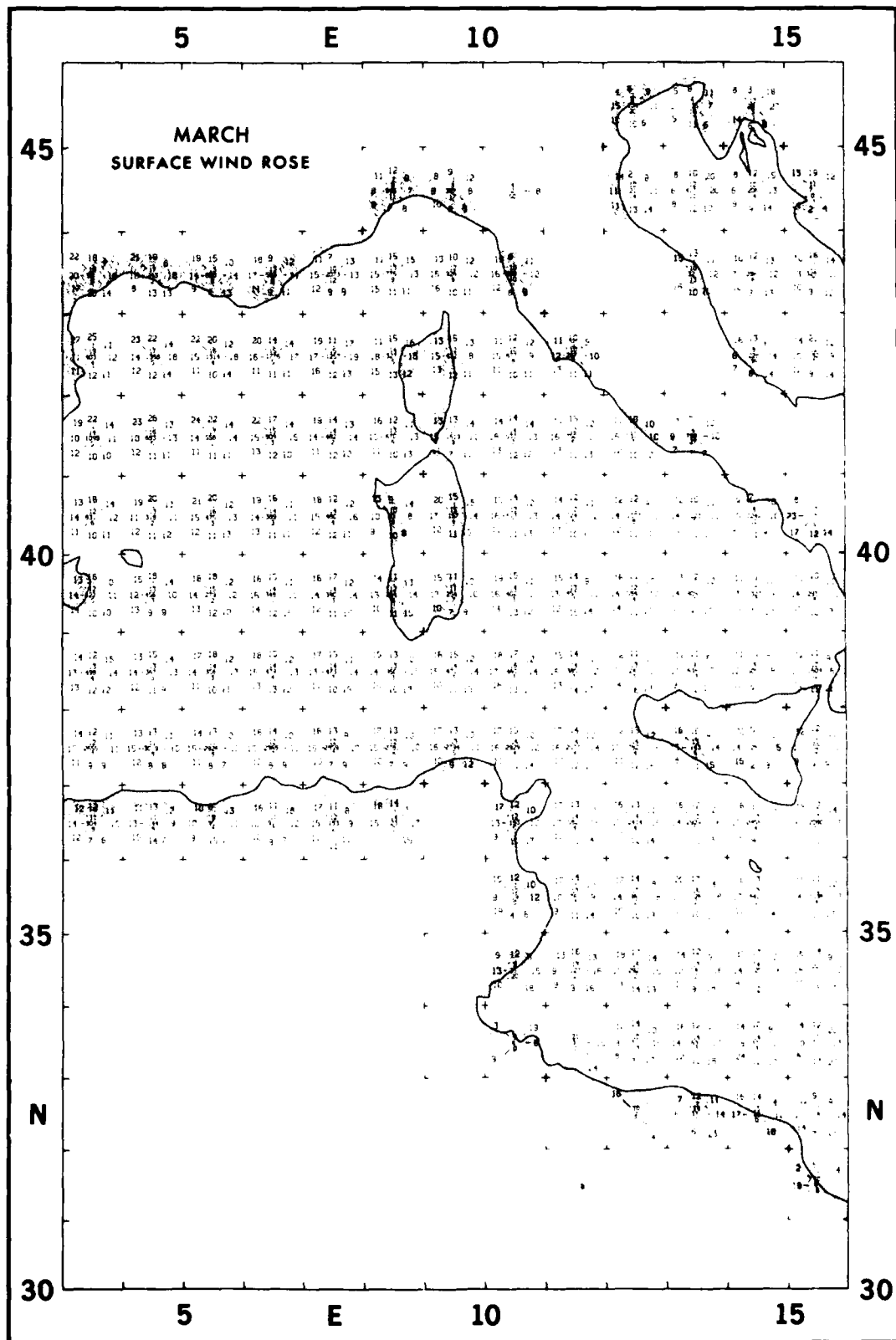


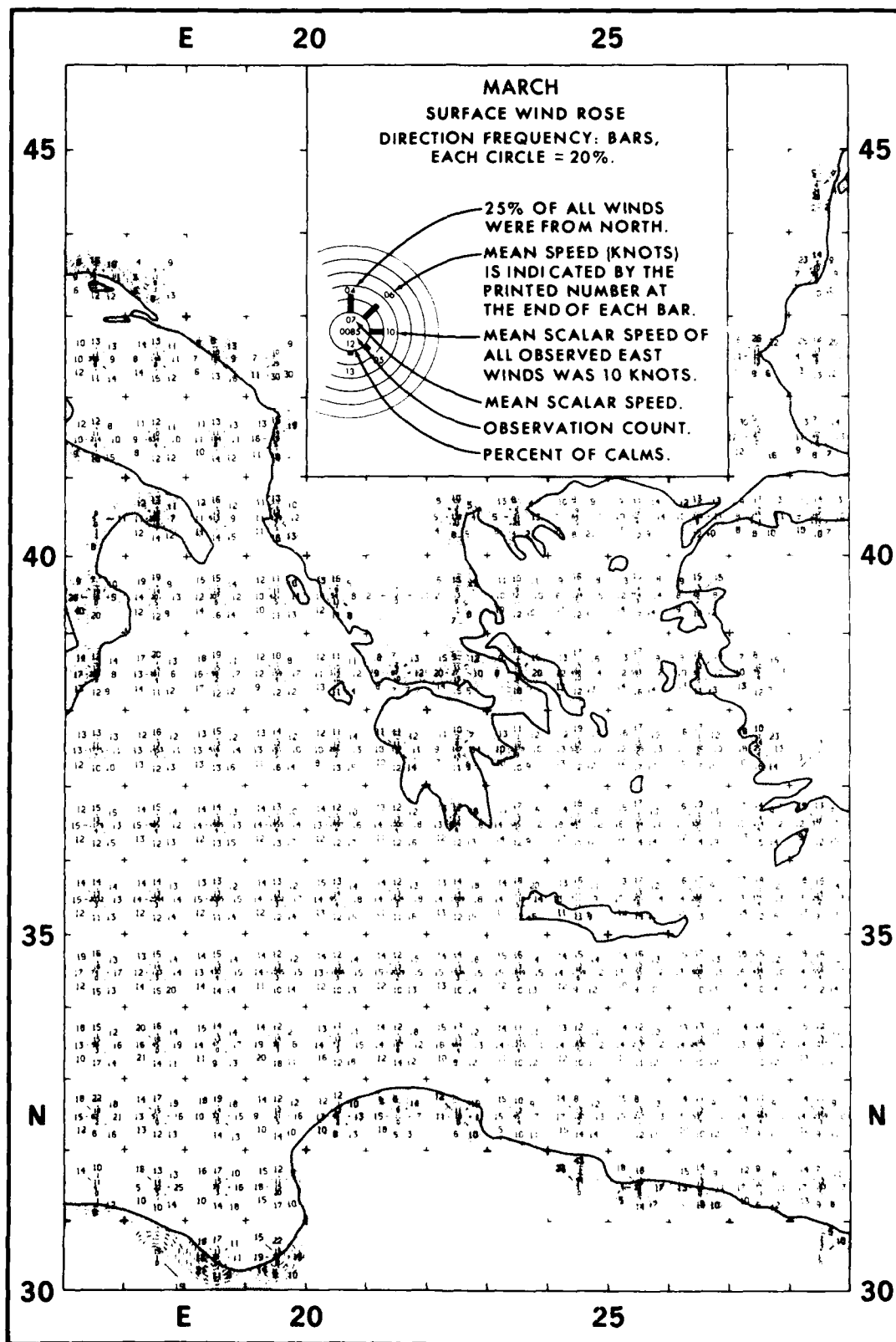


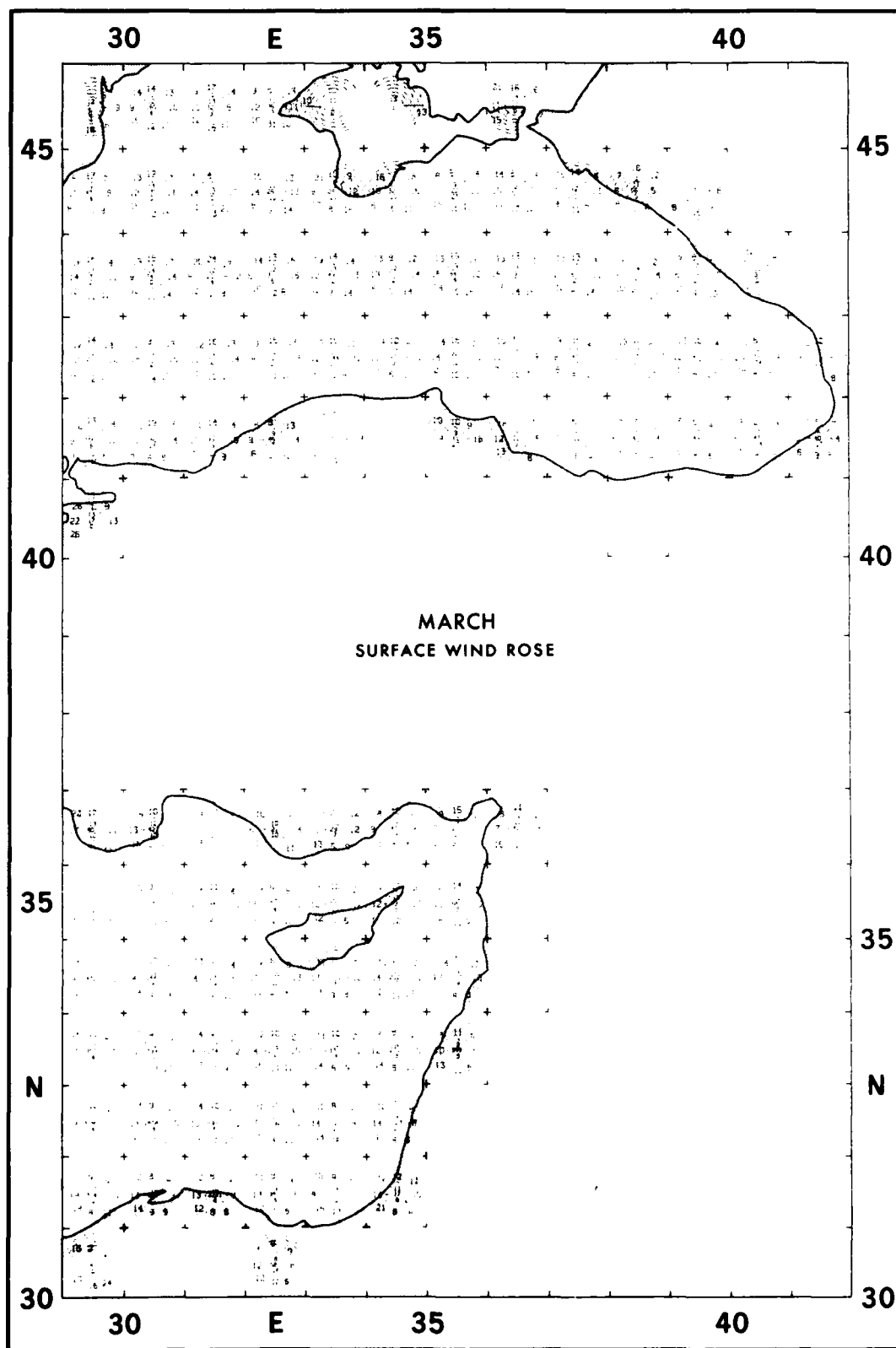


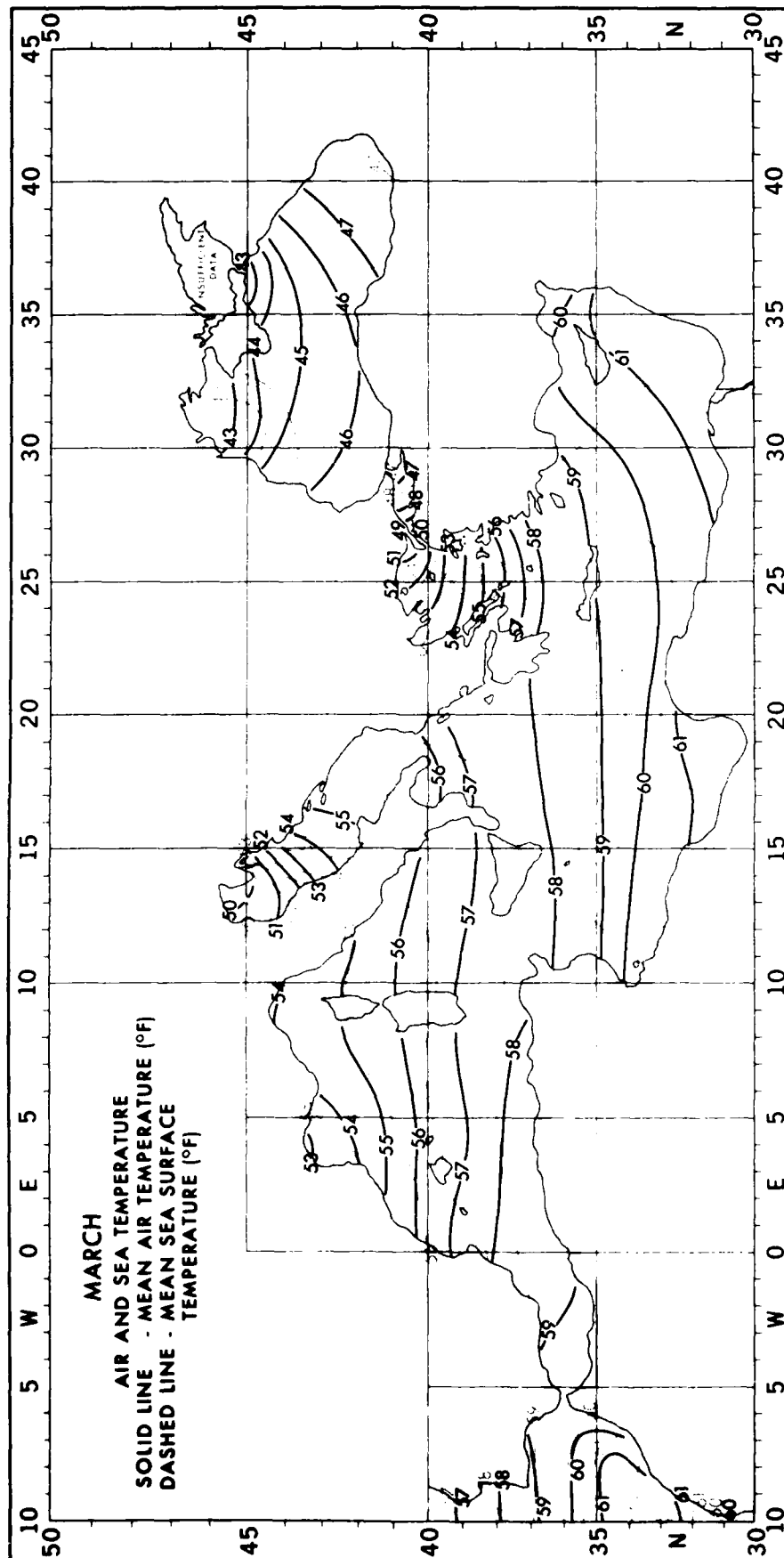


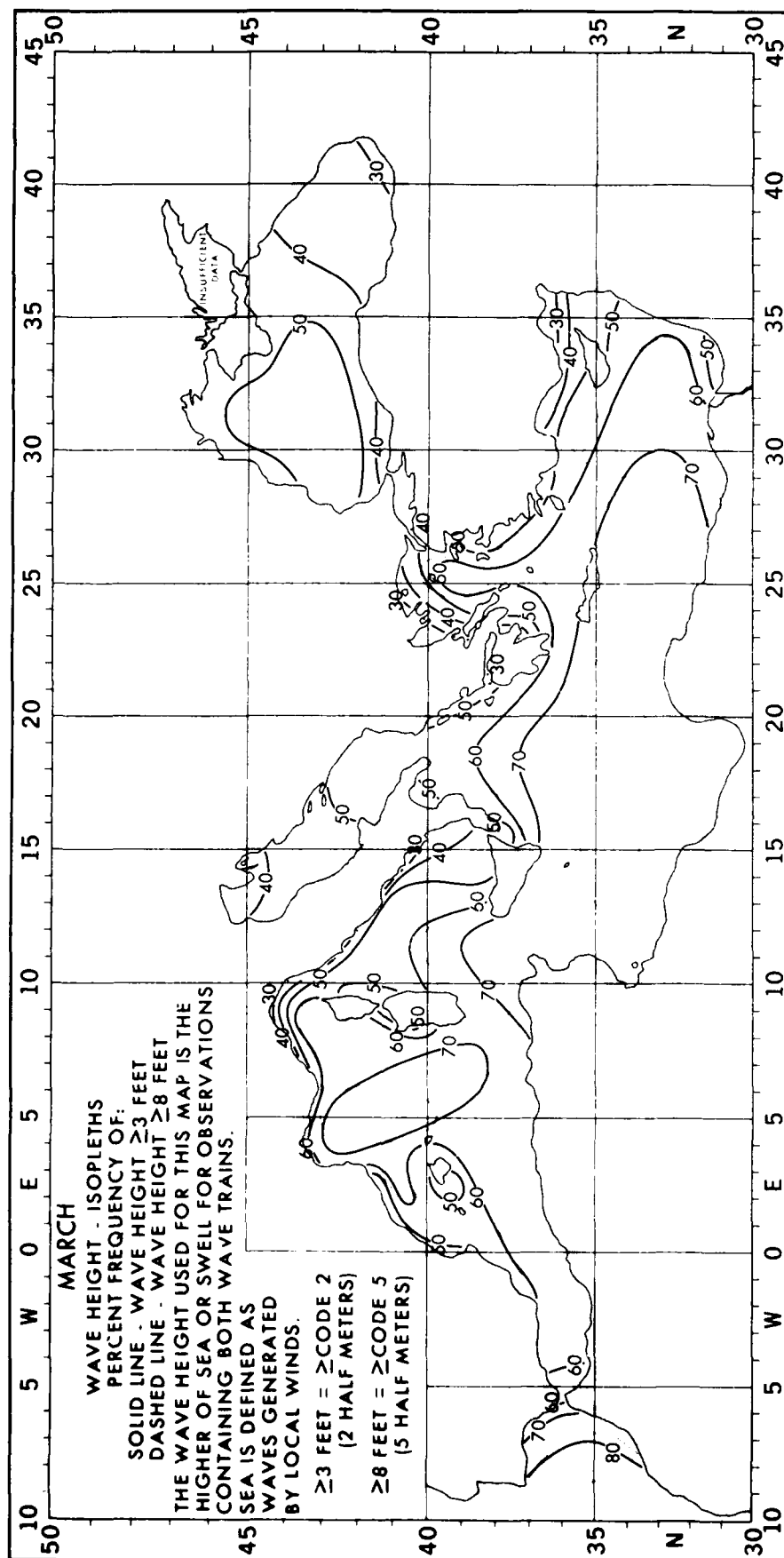


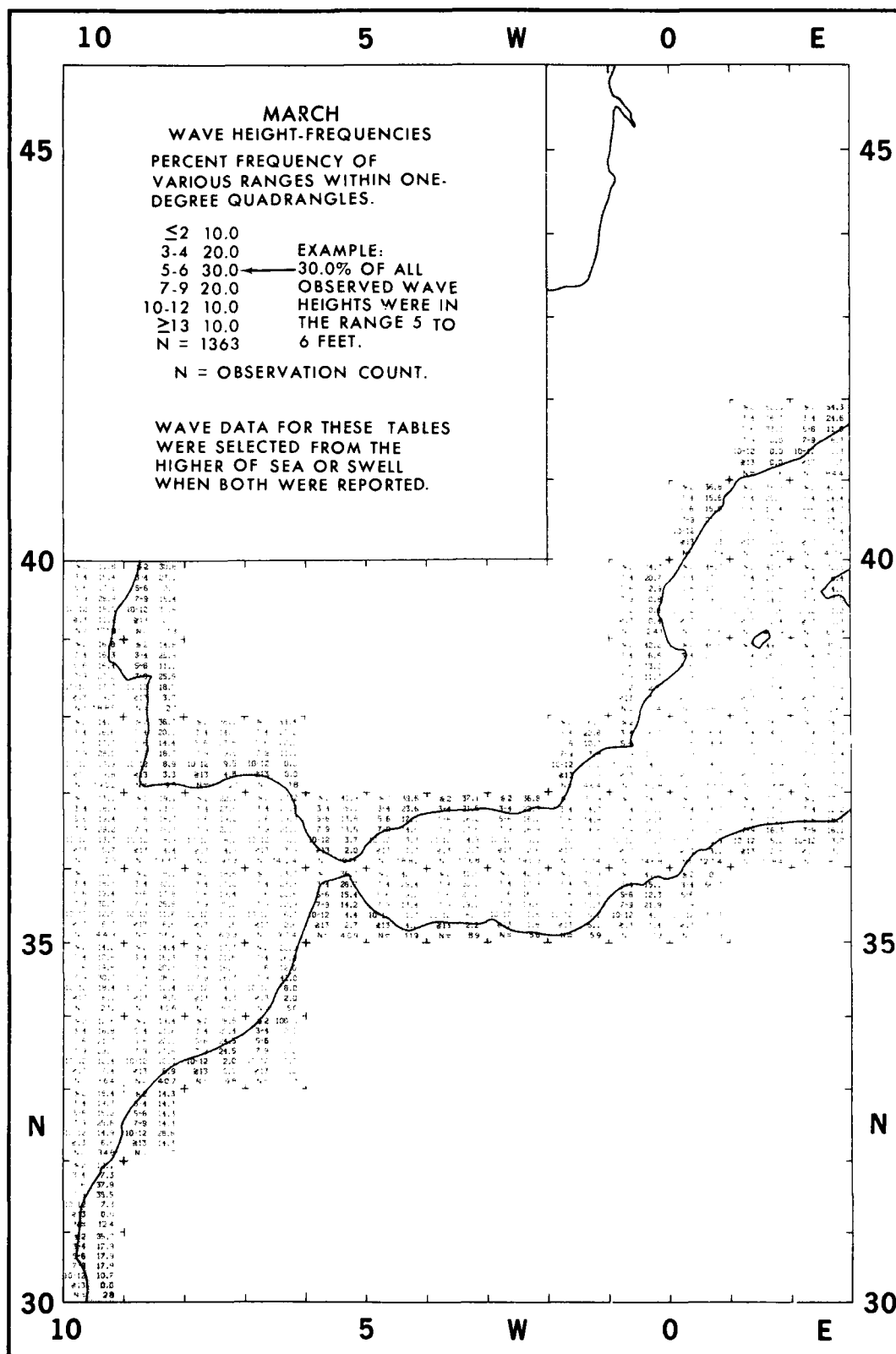


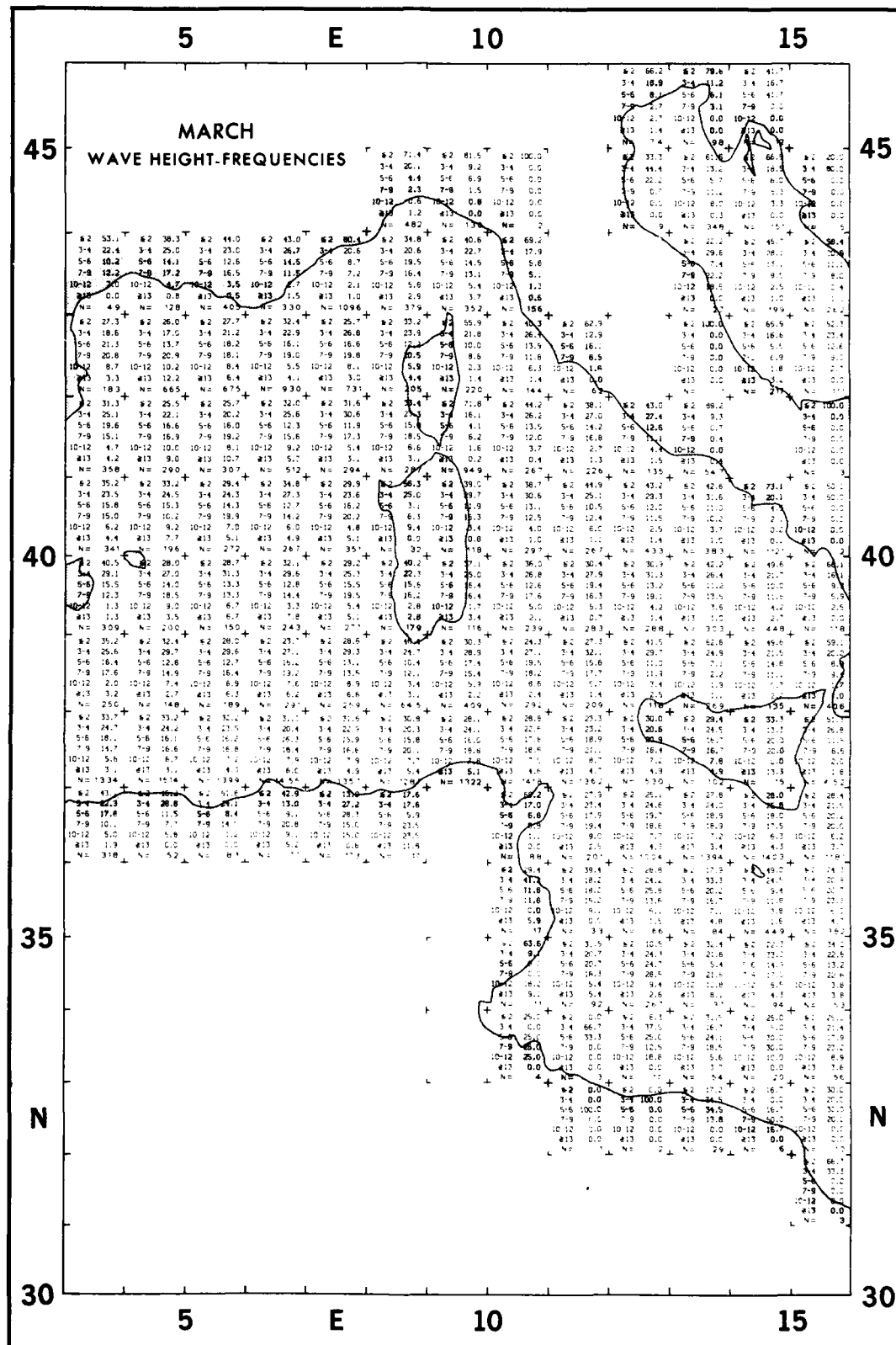


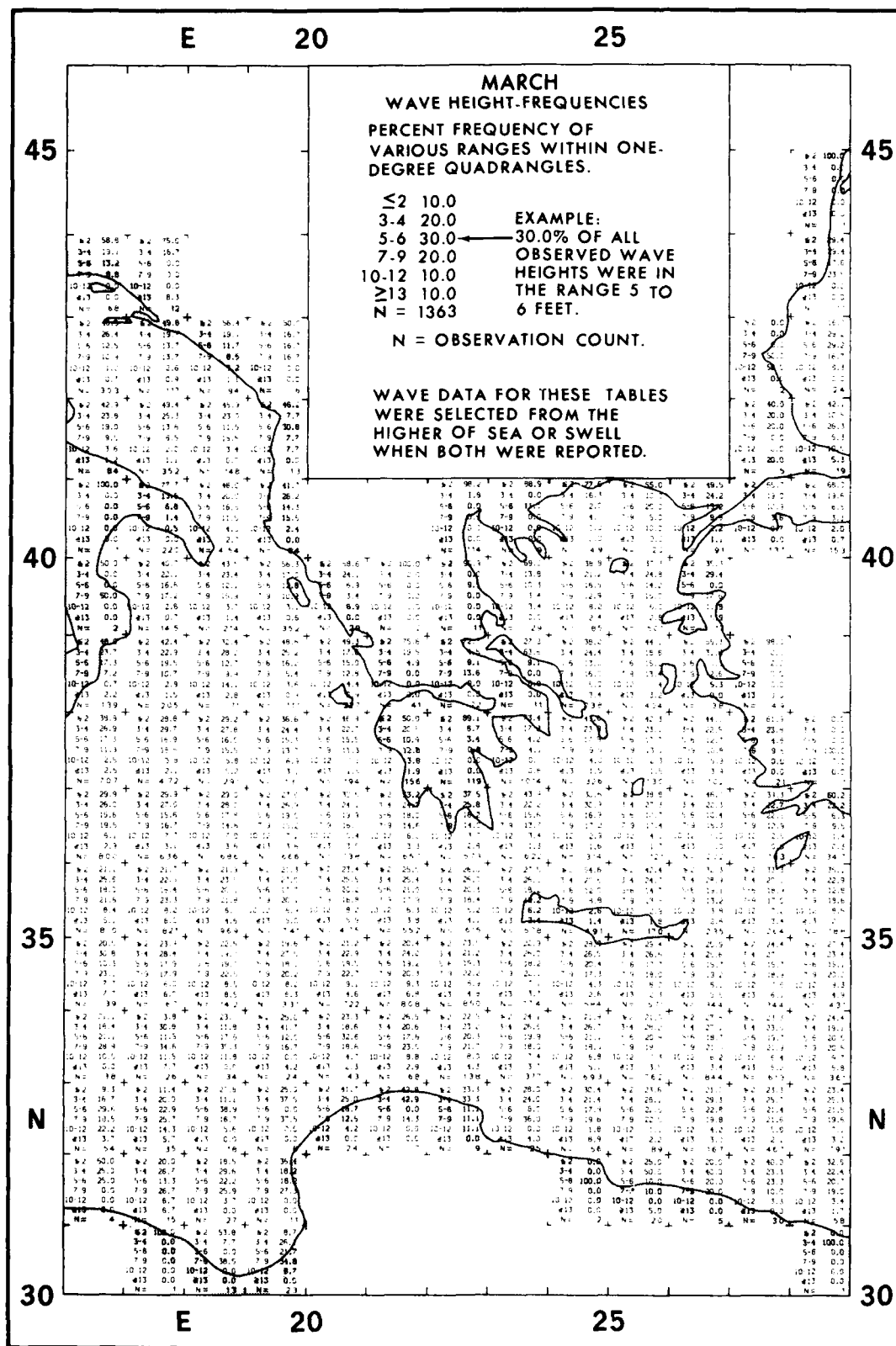


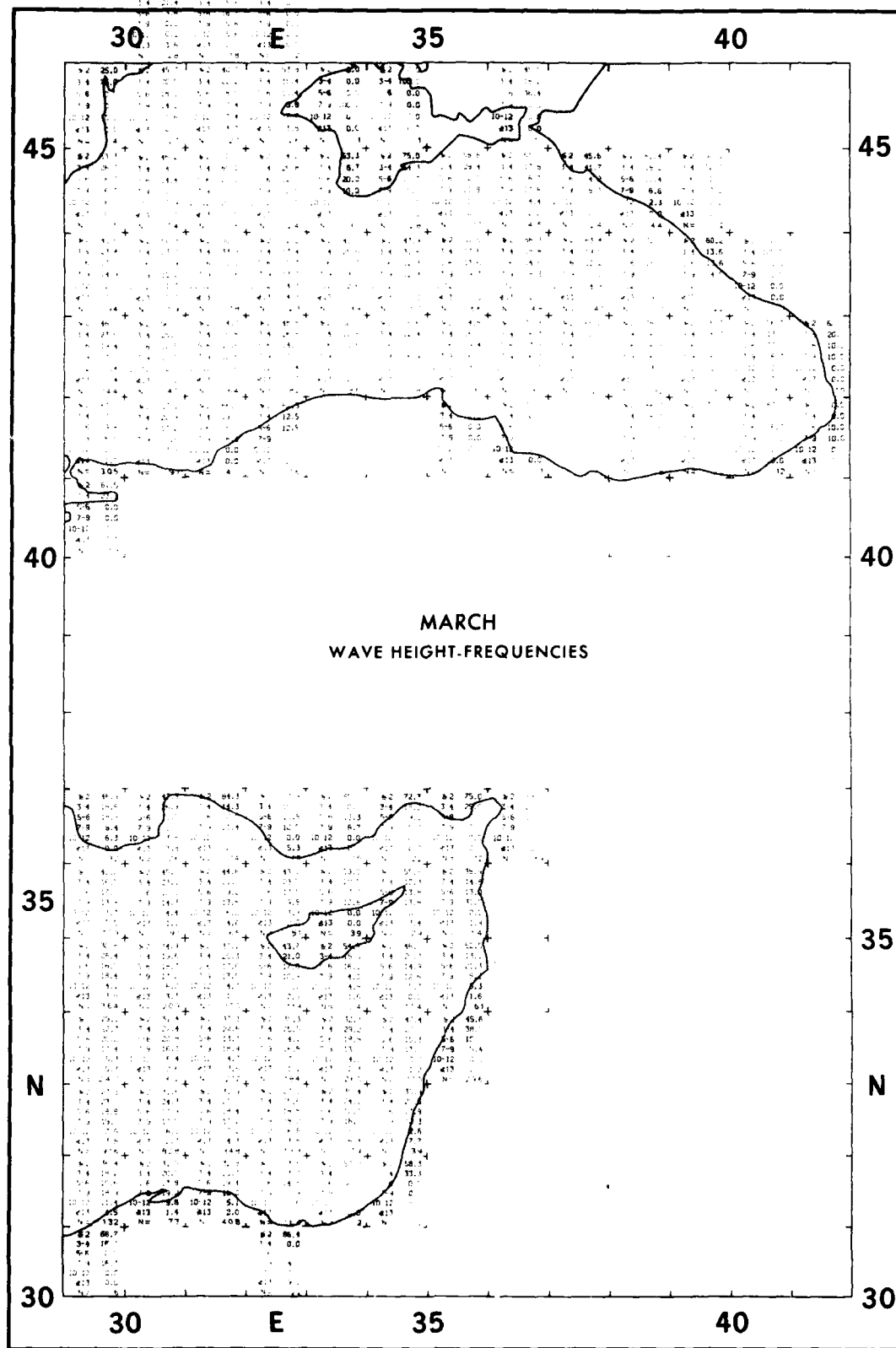


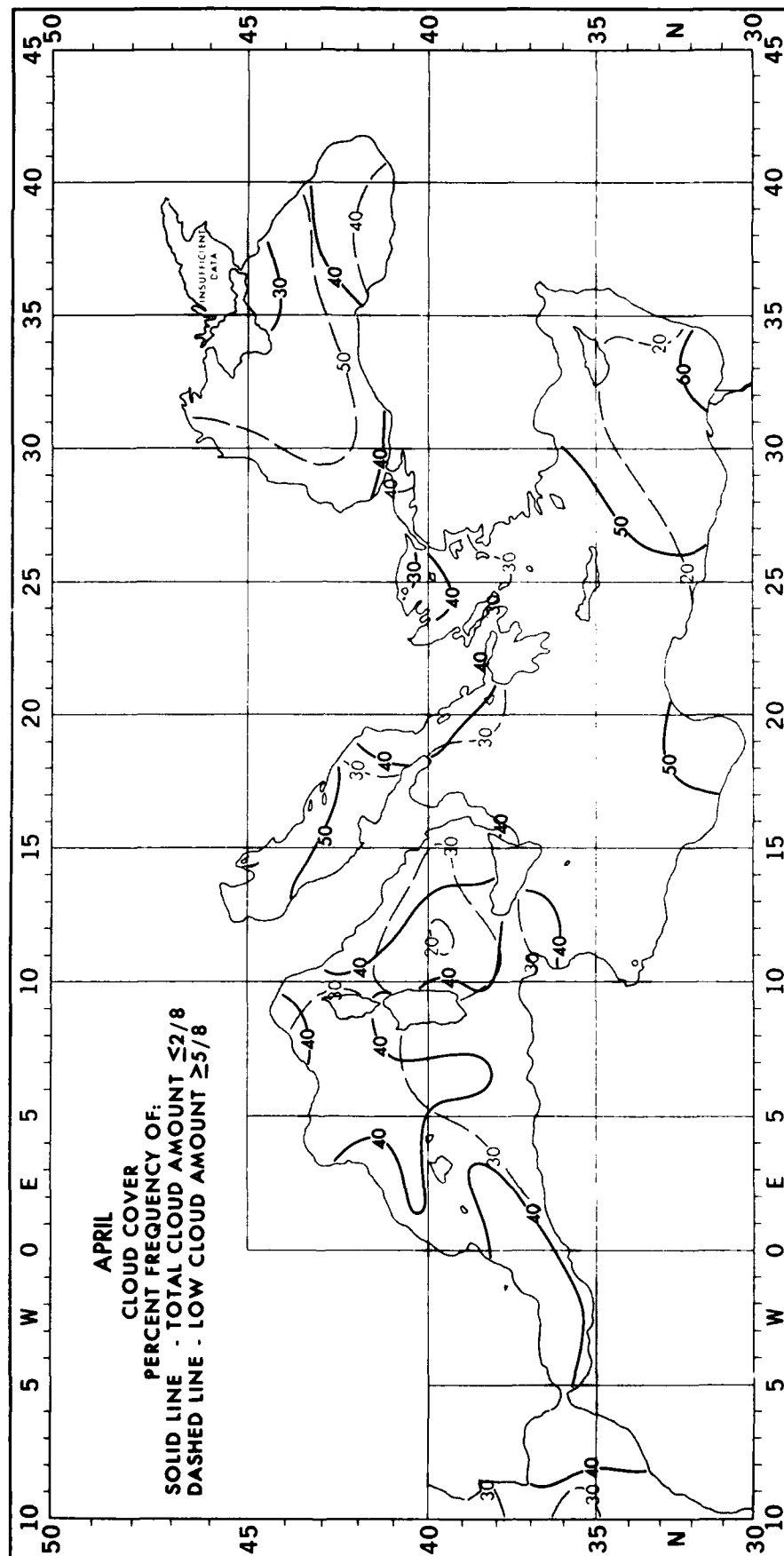


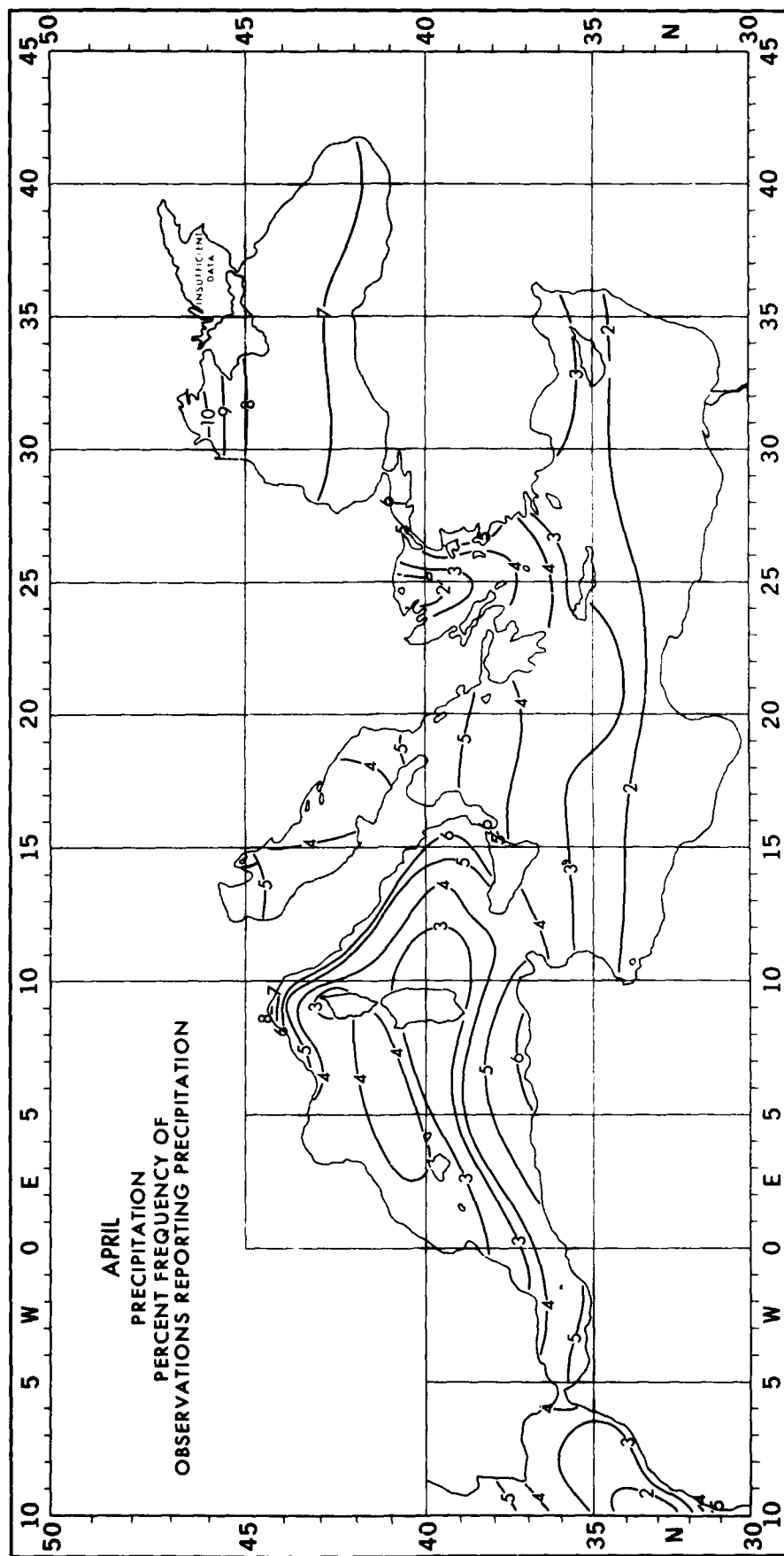


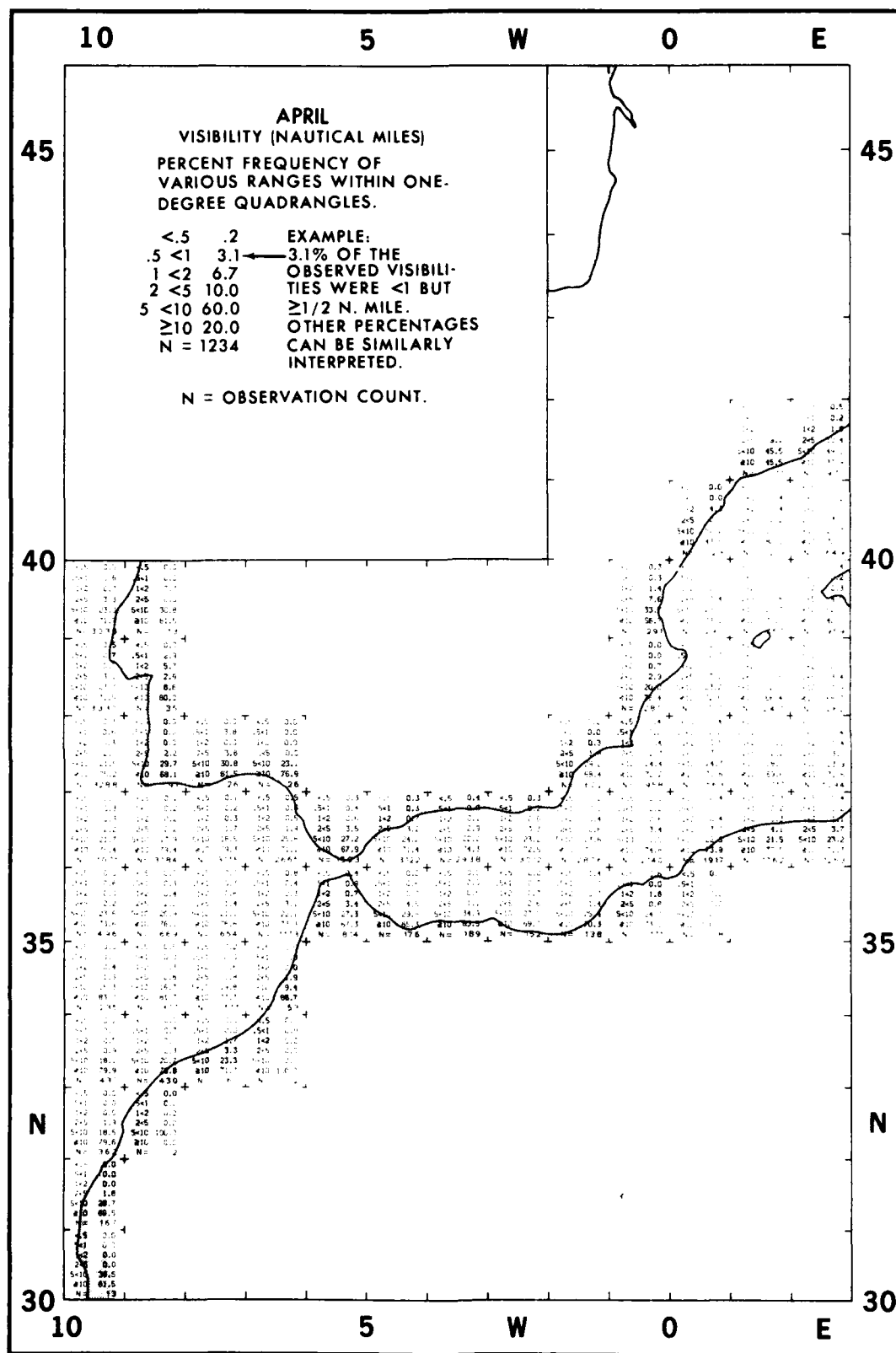


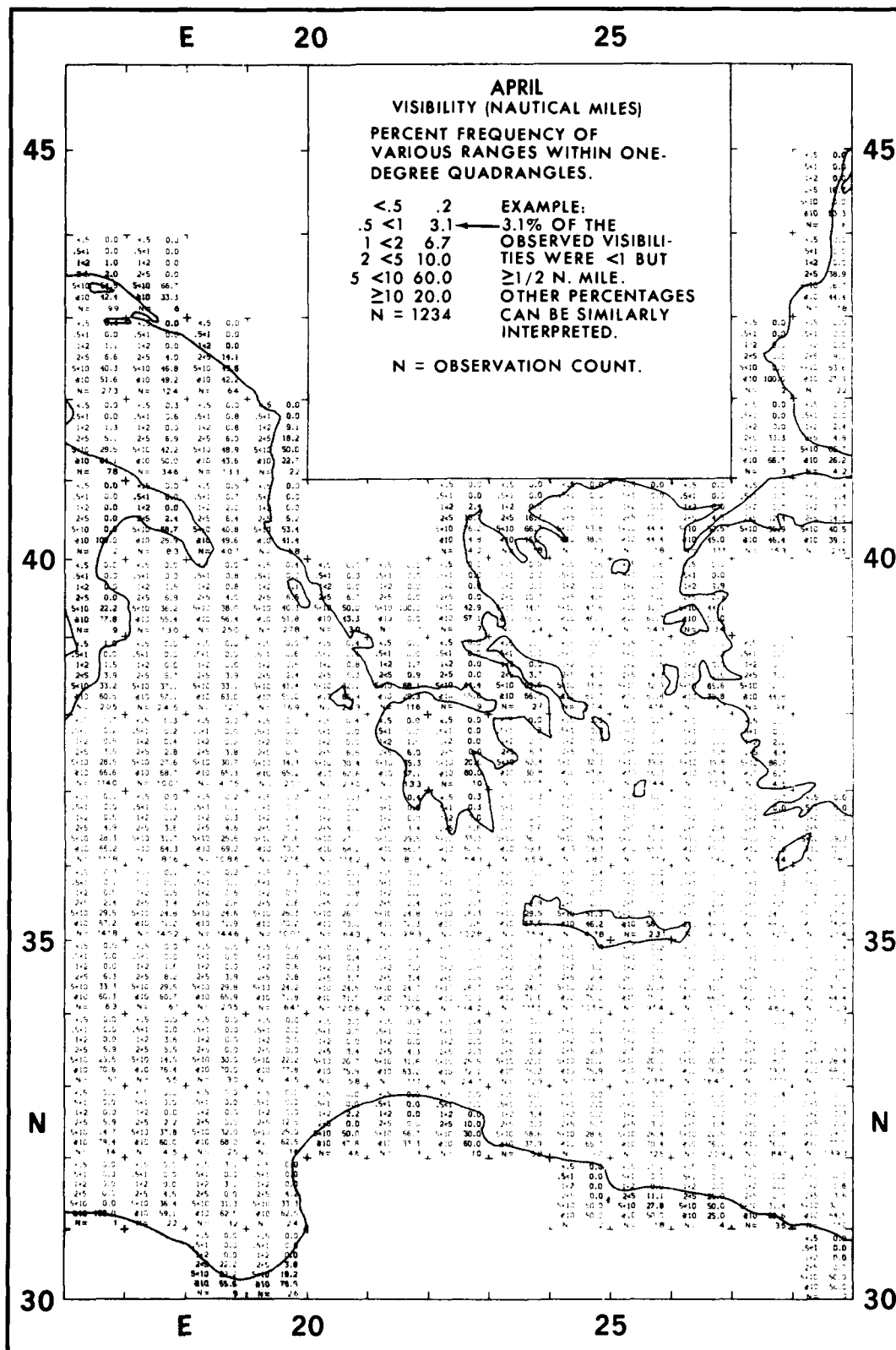


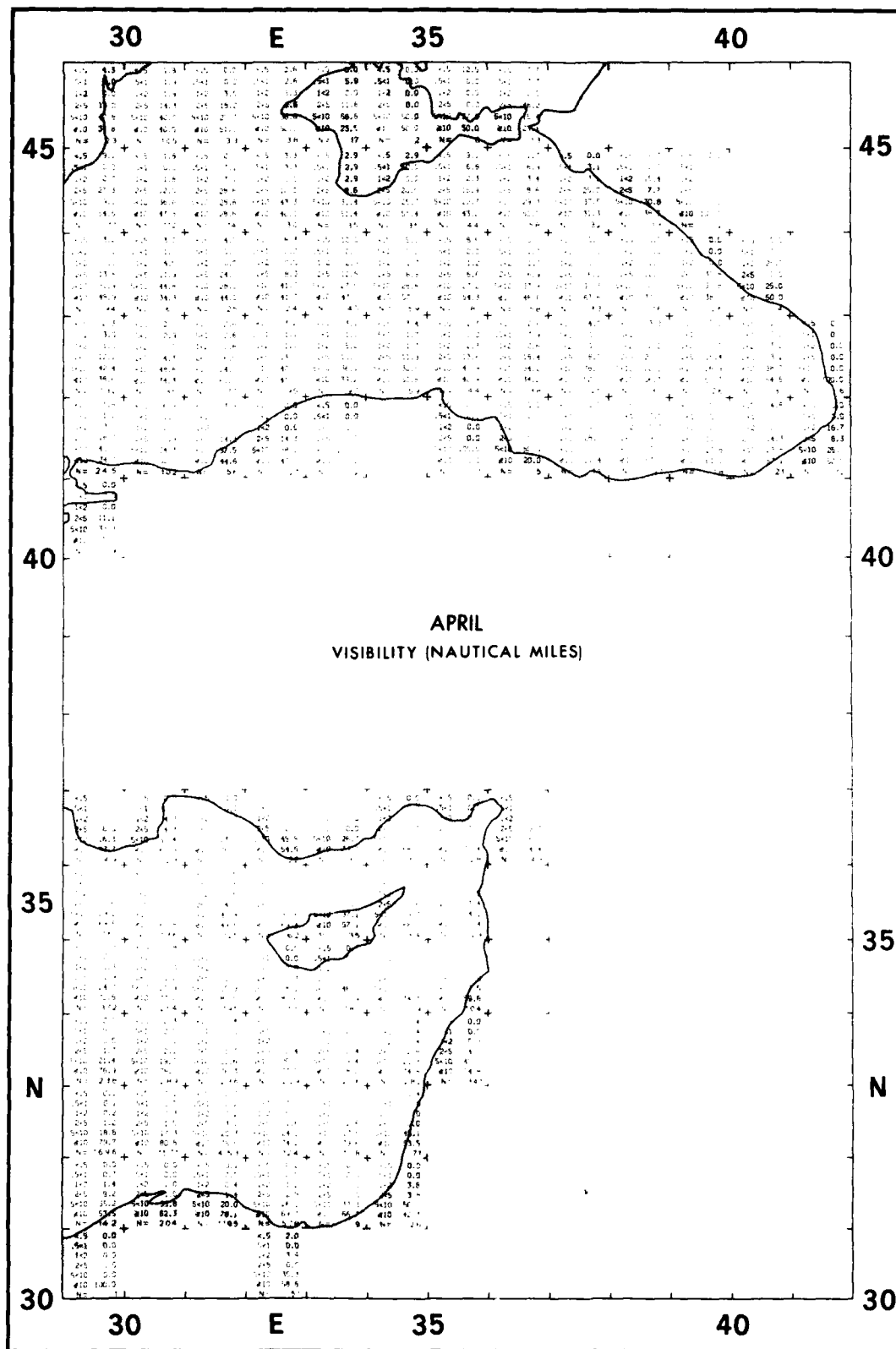


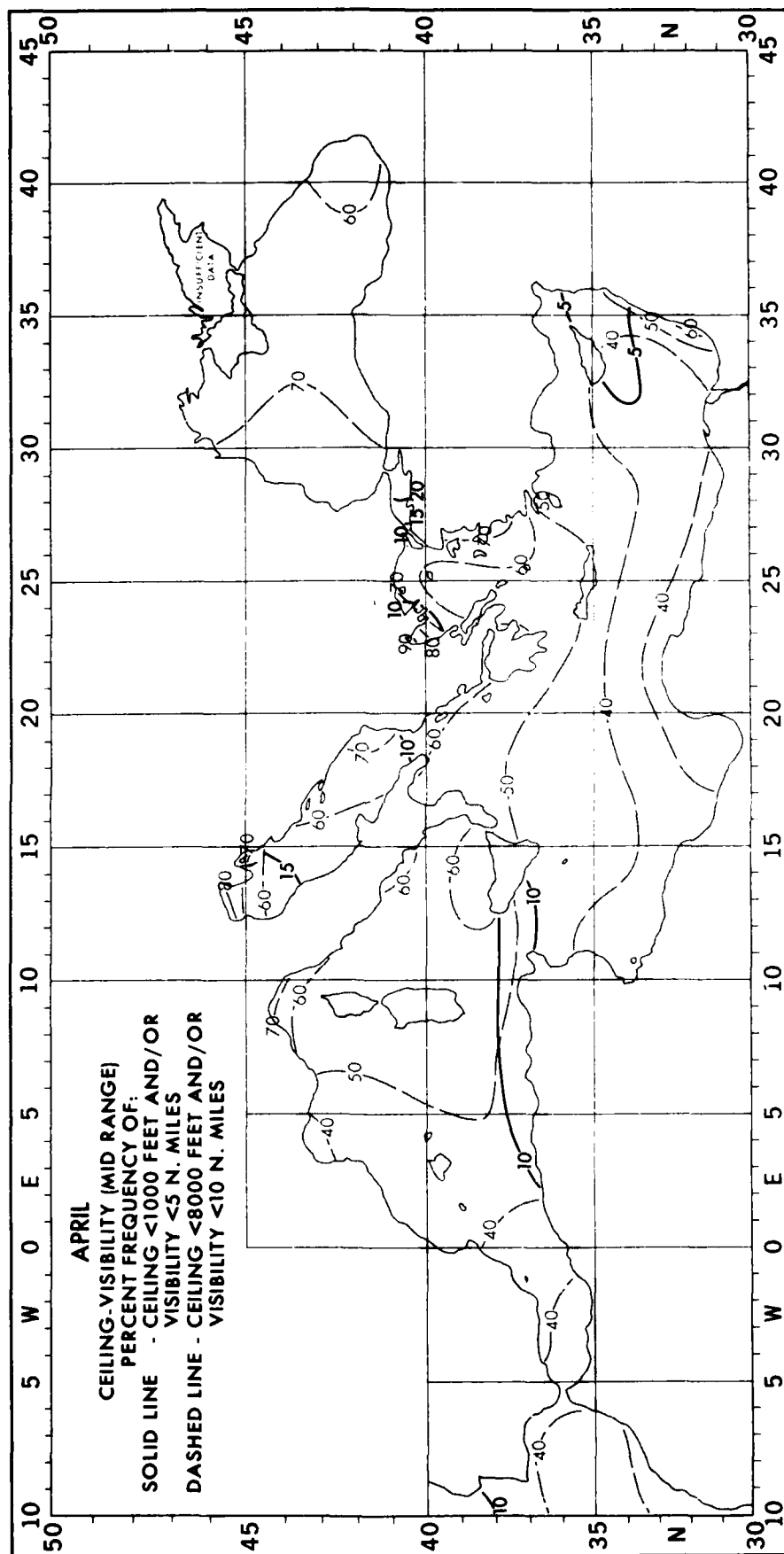


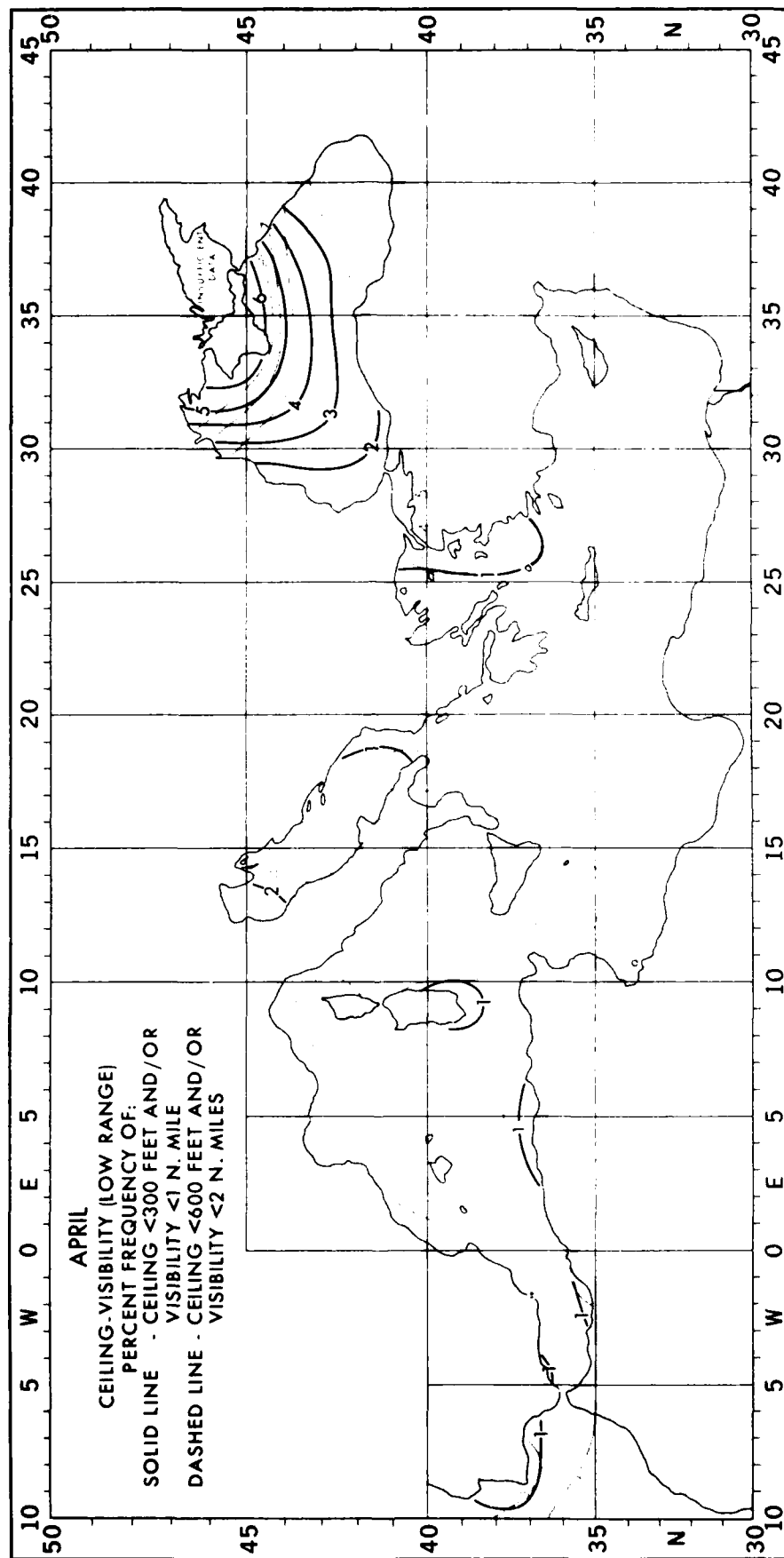


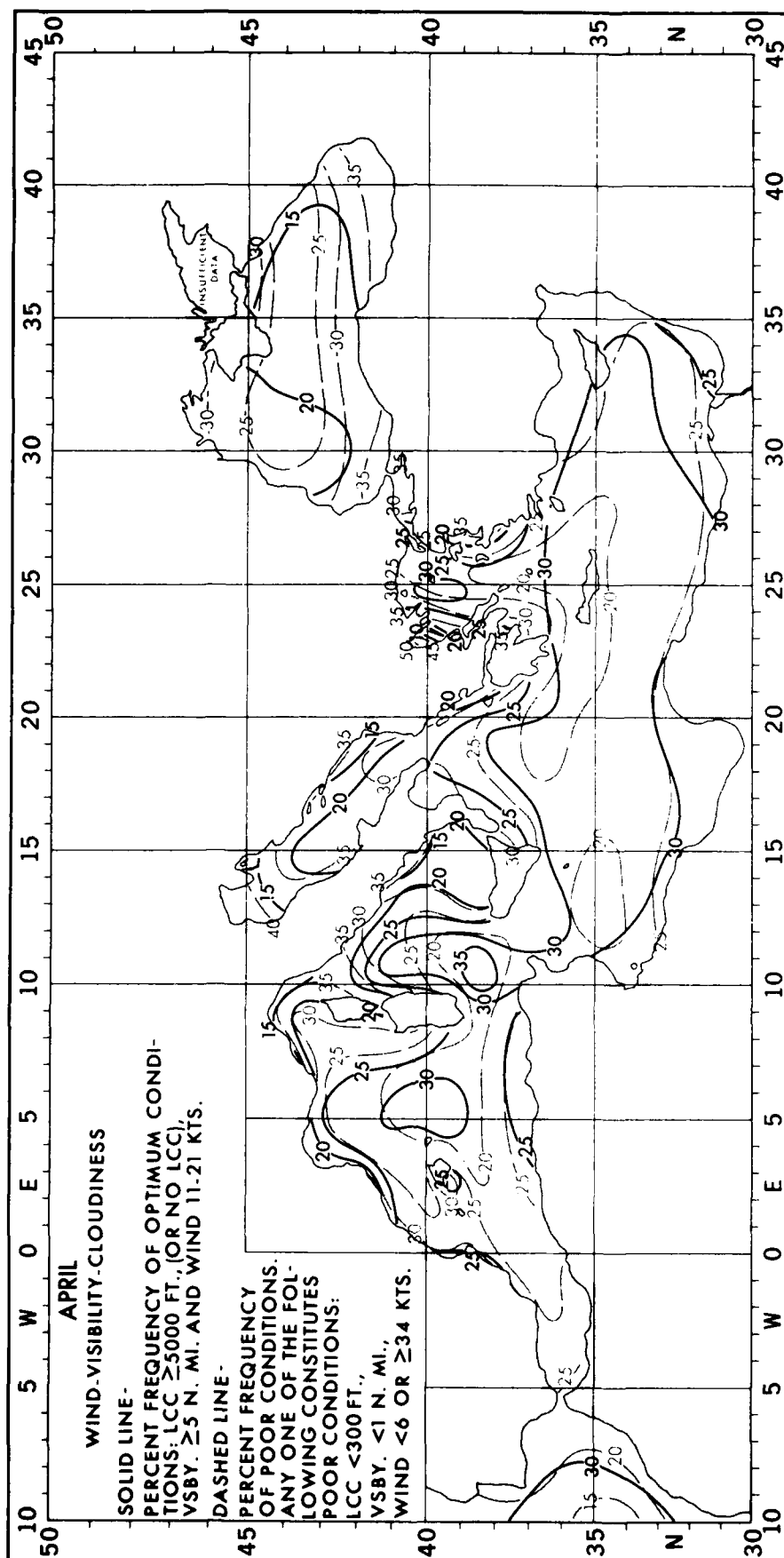


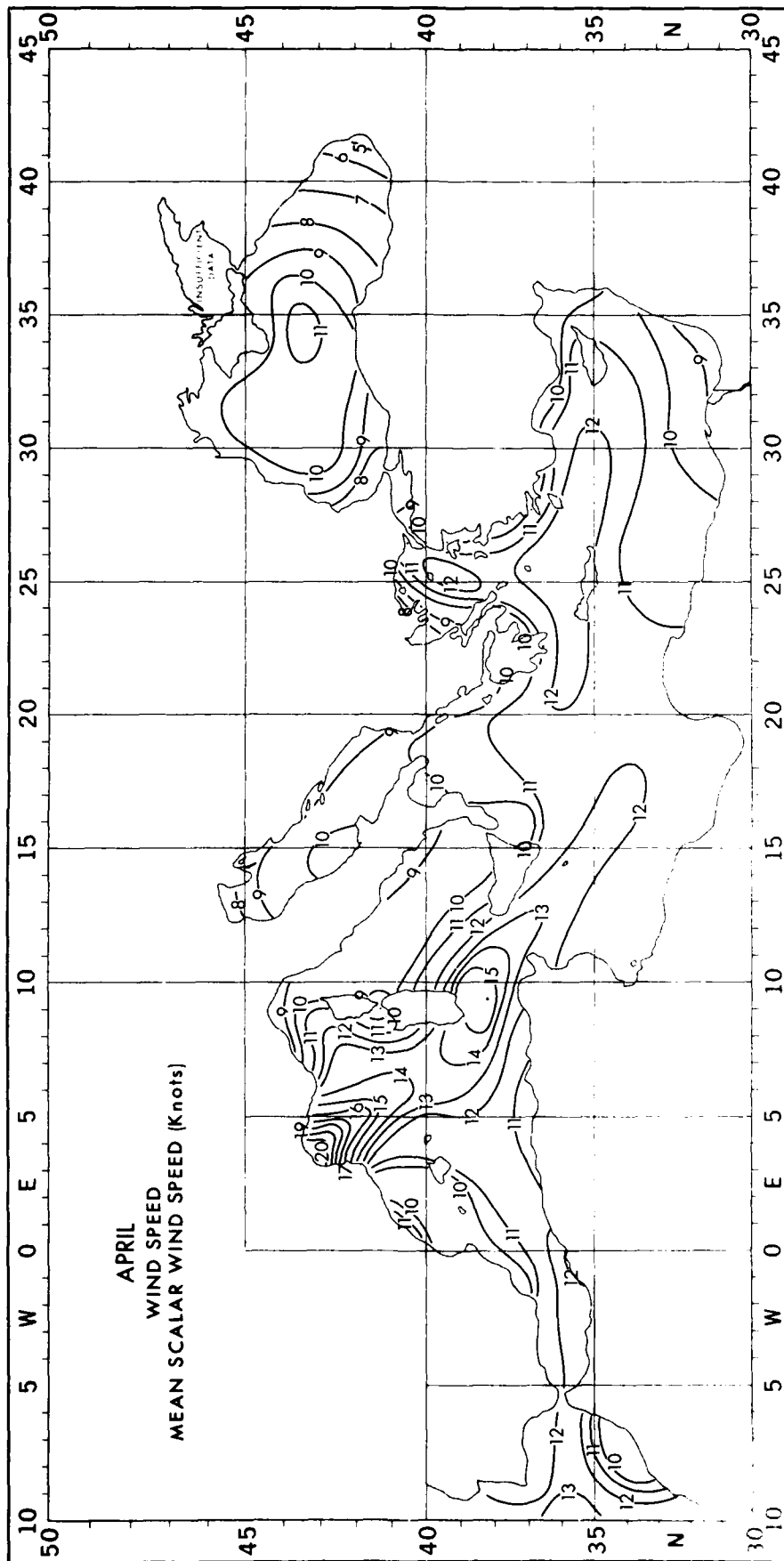












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US NAVY CLIMATIC STUDY OF THE MEDITERRANEAN SEA(U)
NAVAL OCEANOGRAPHY COMMAND NSIL STATION MS JUL 87
NAVAIR-58-1C-547

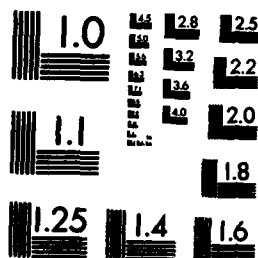
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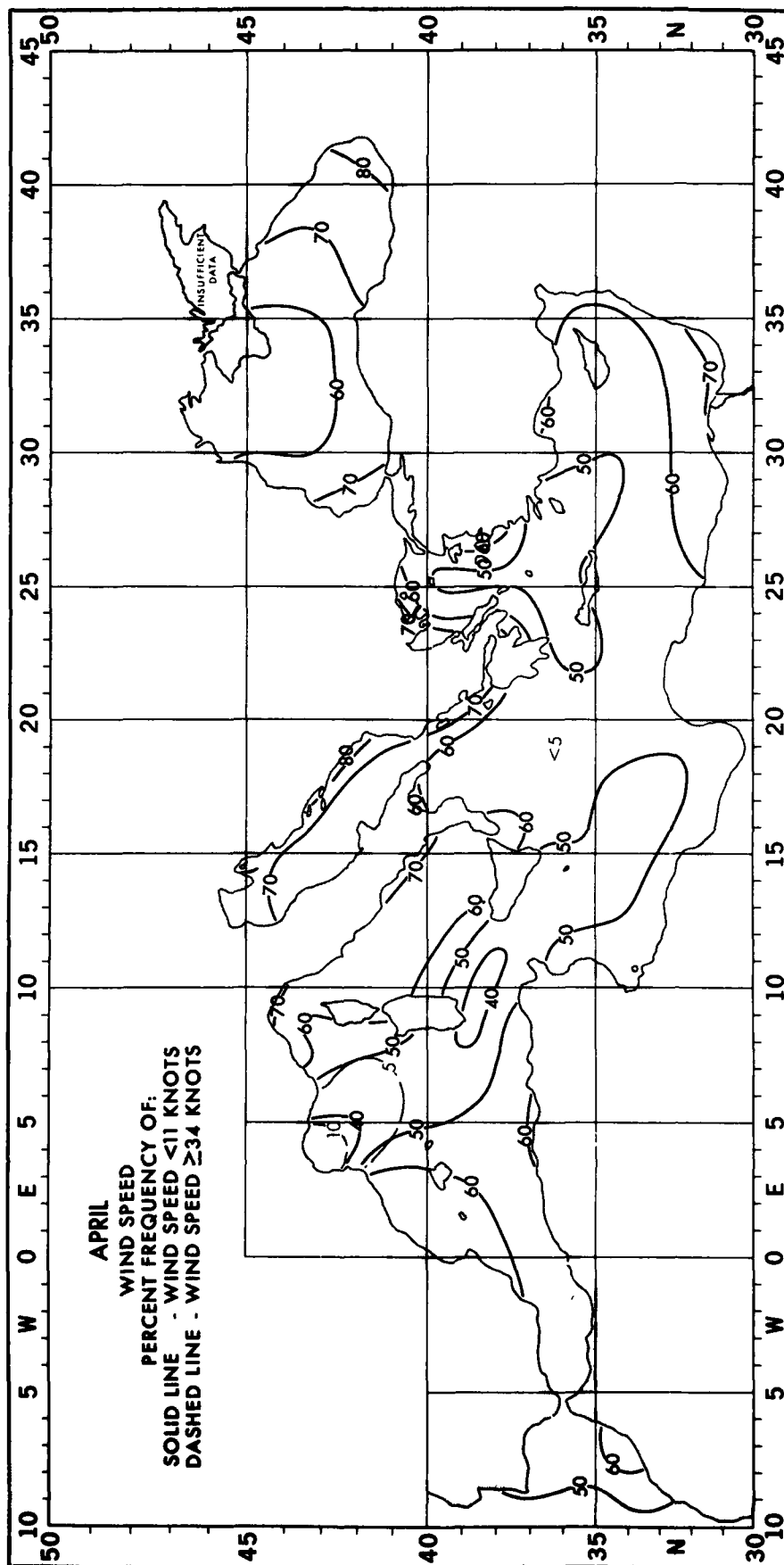
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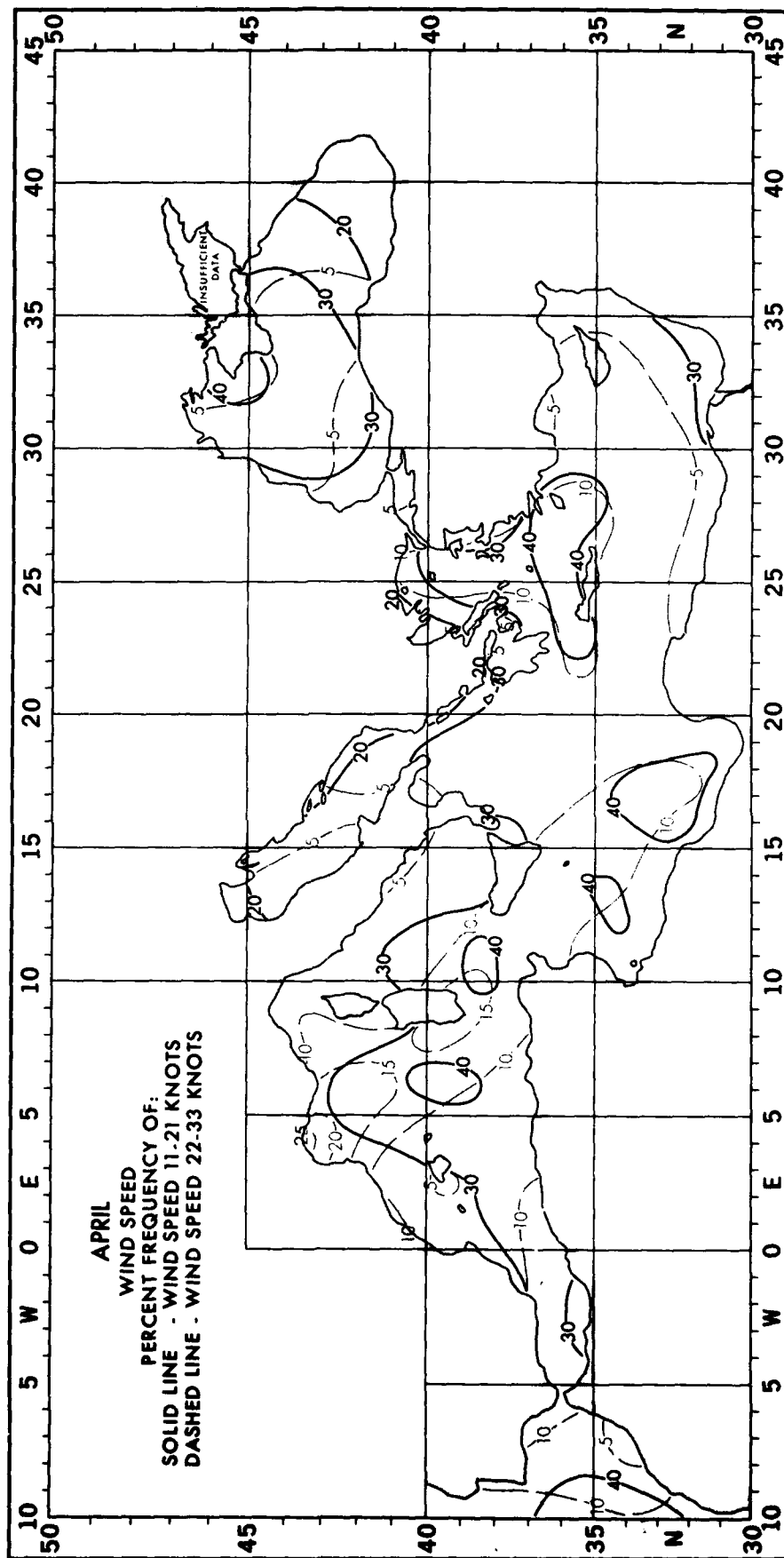
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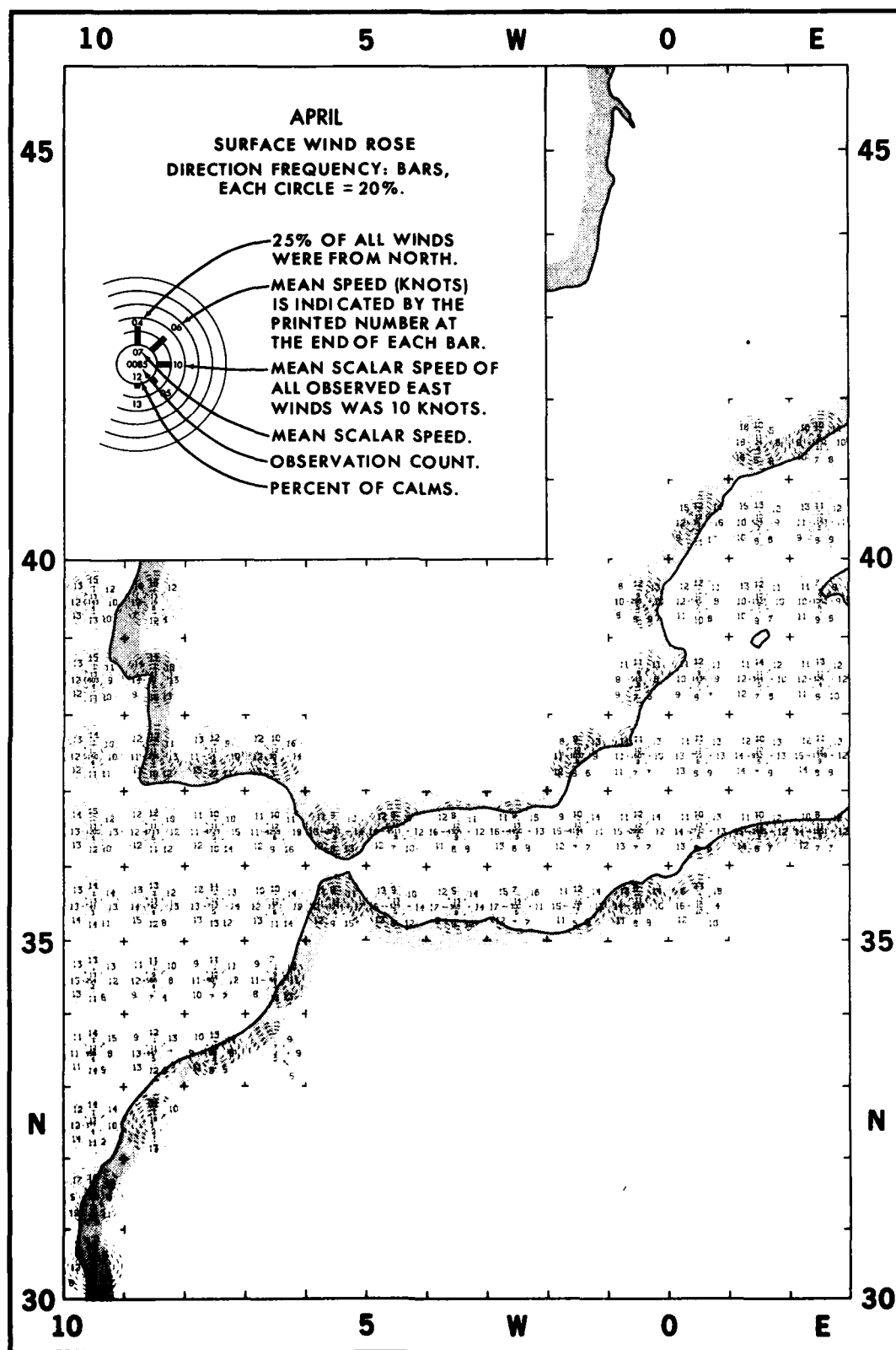


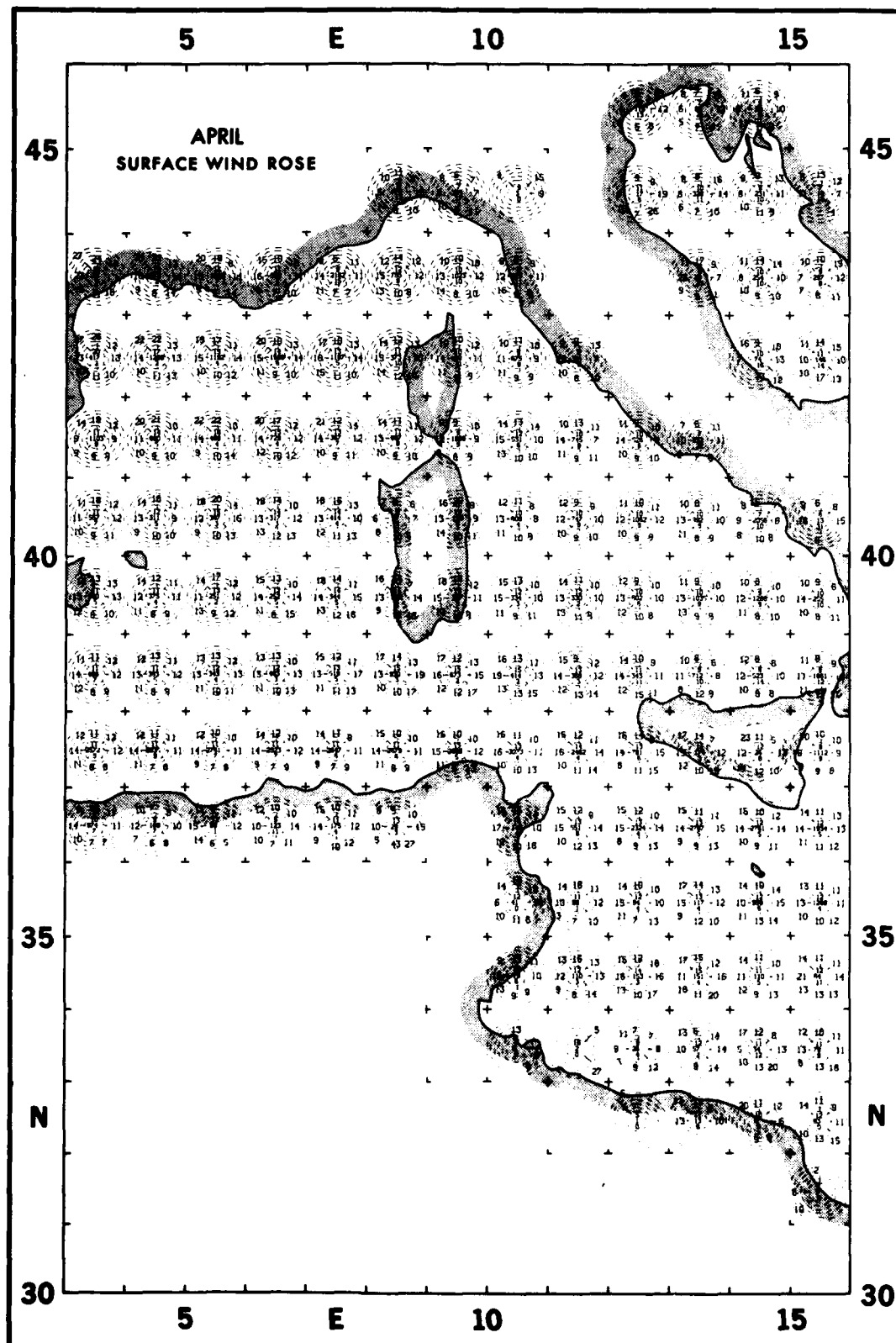


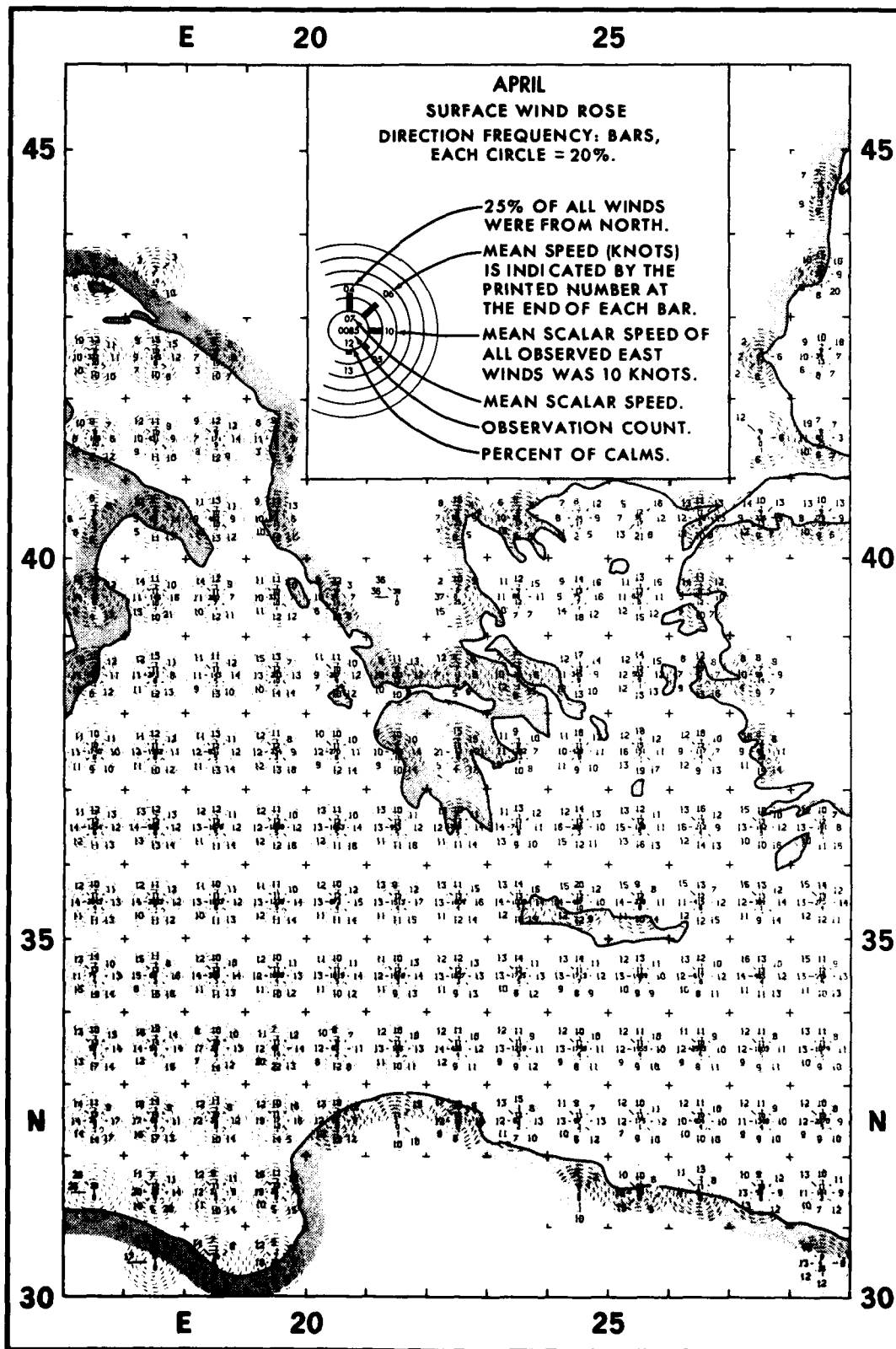
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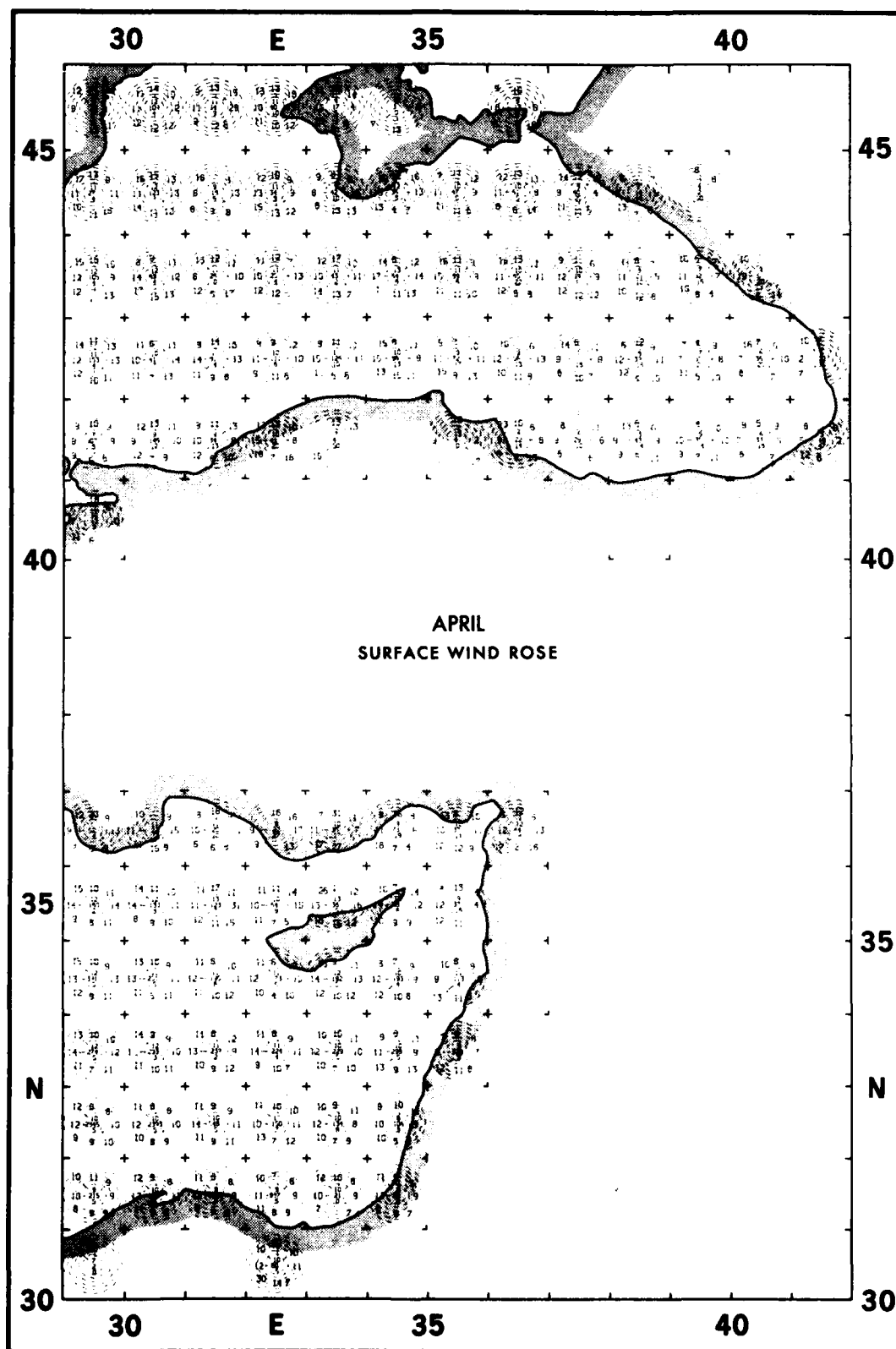


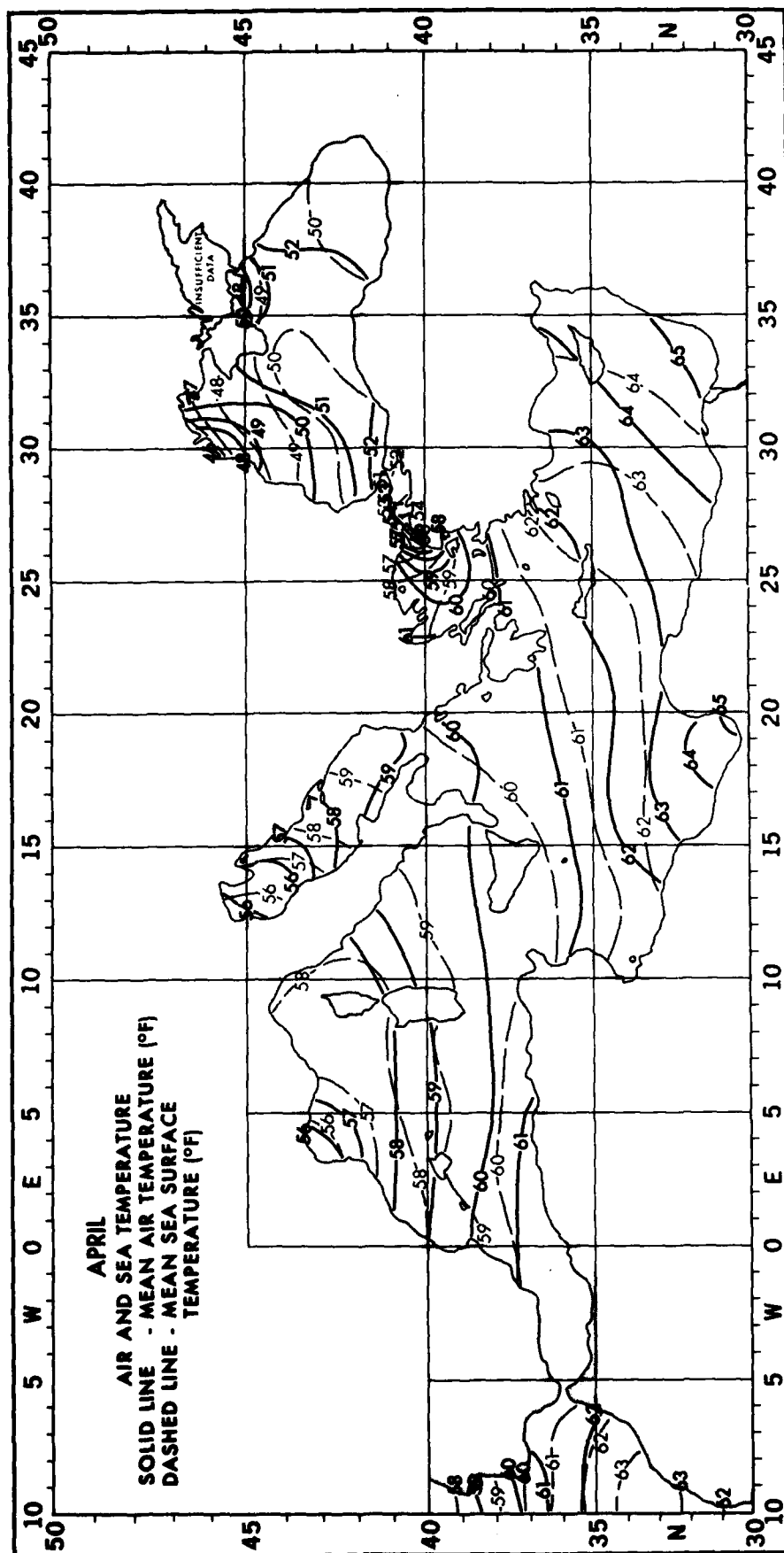


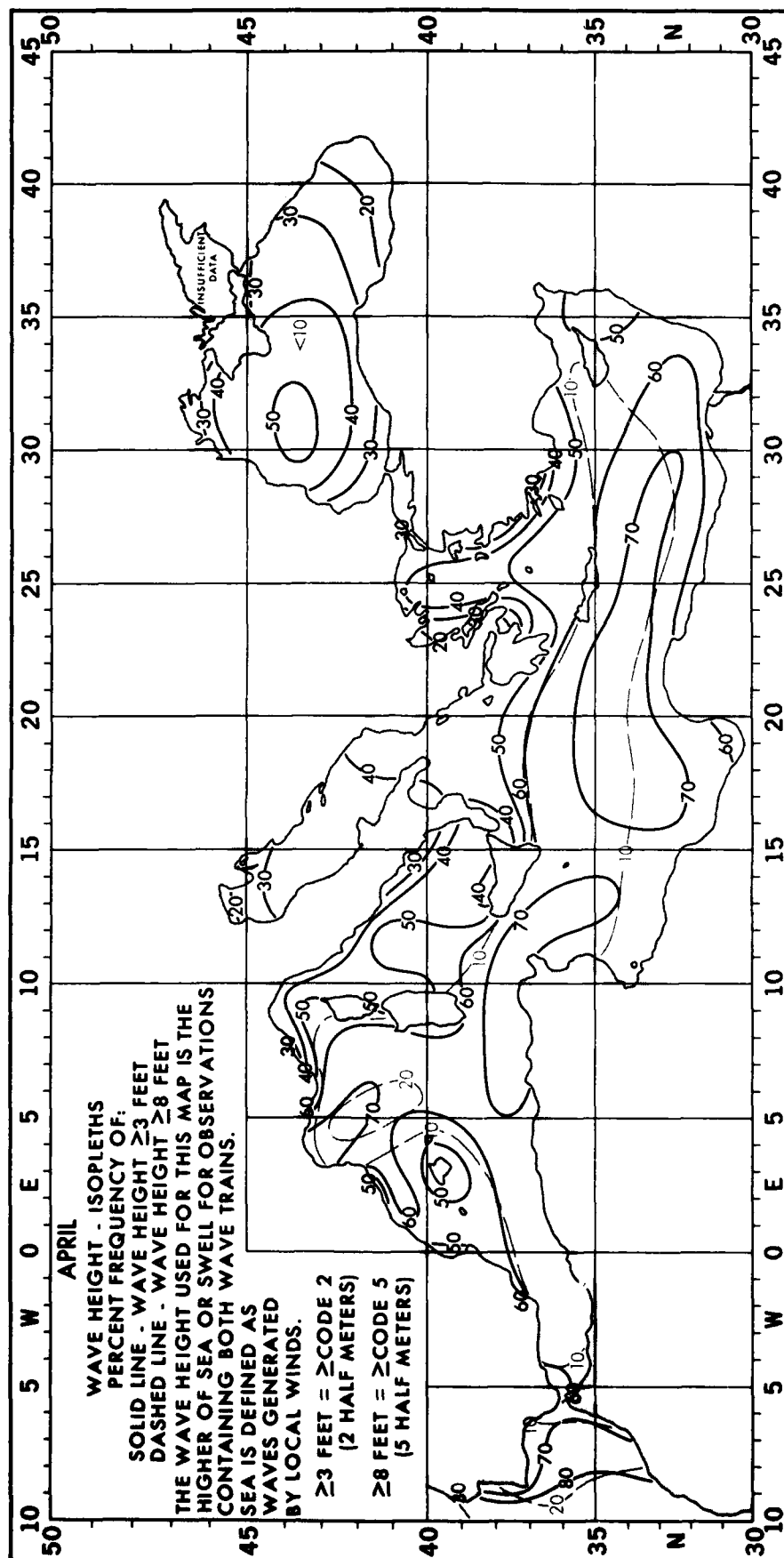


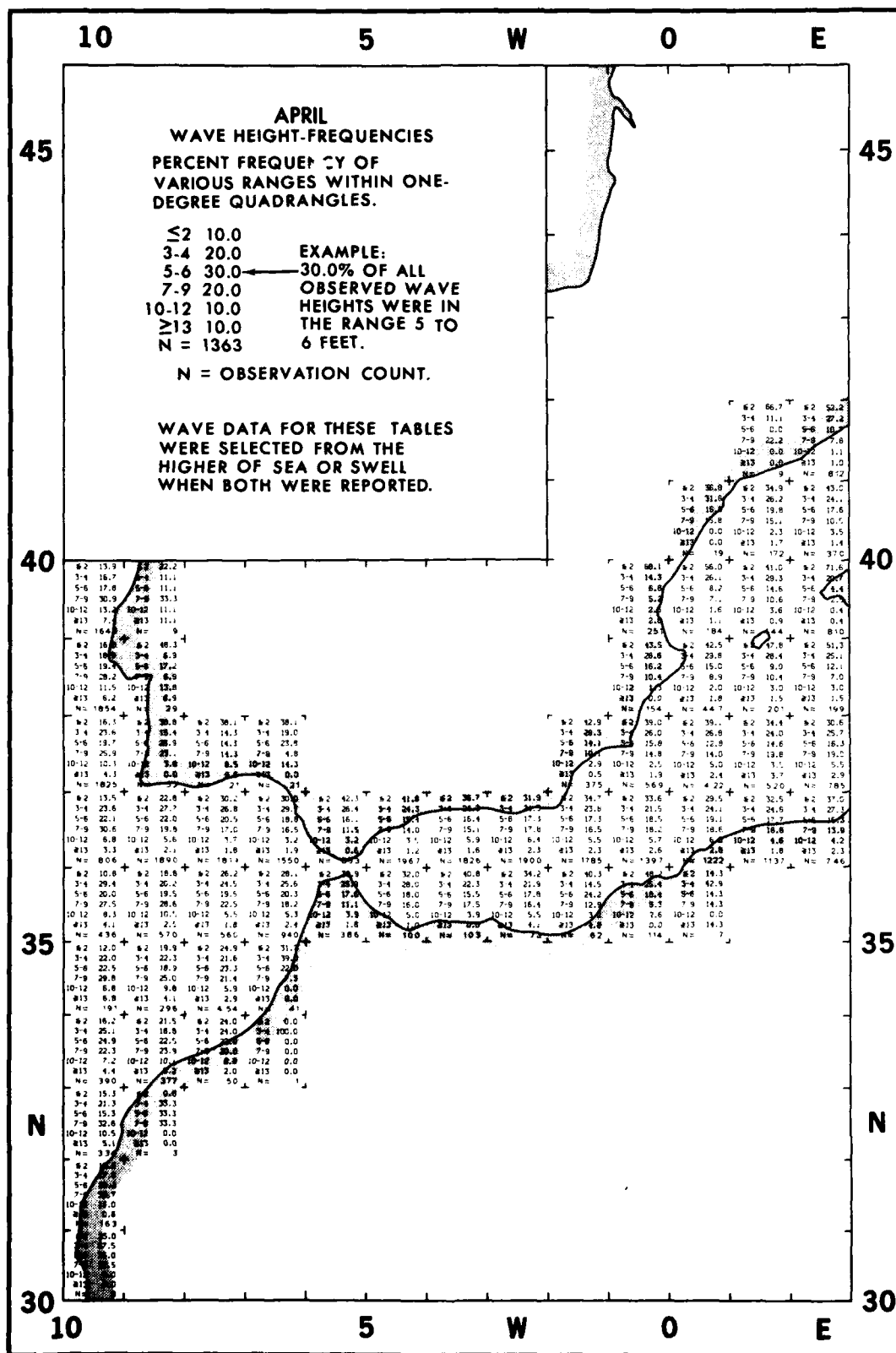


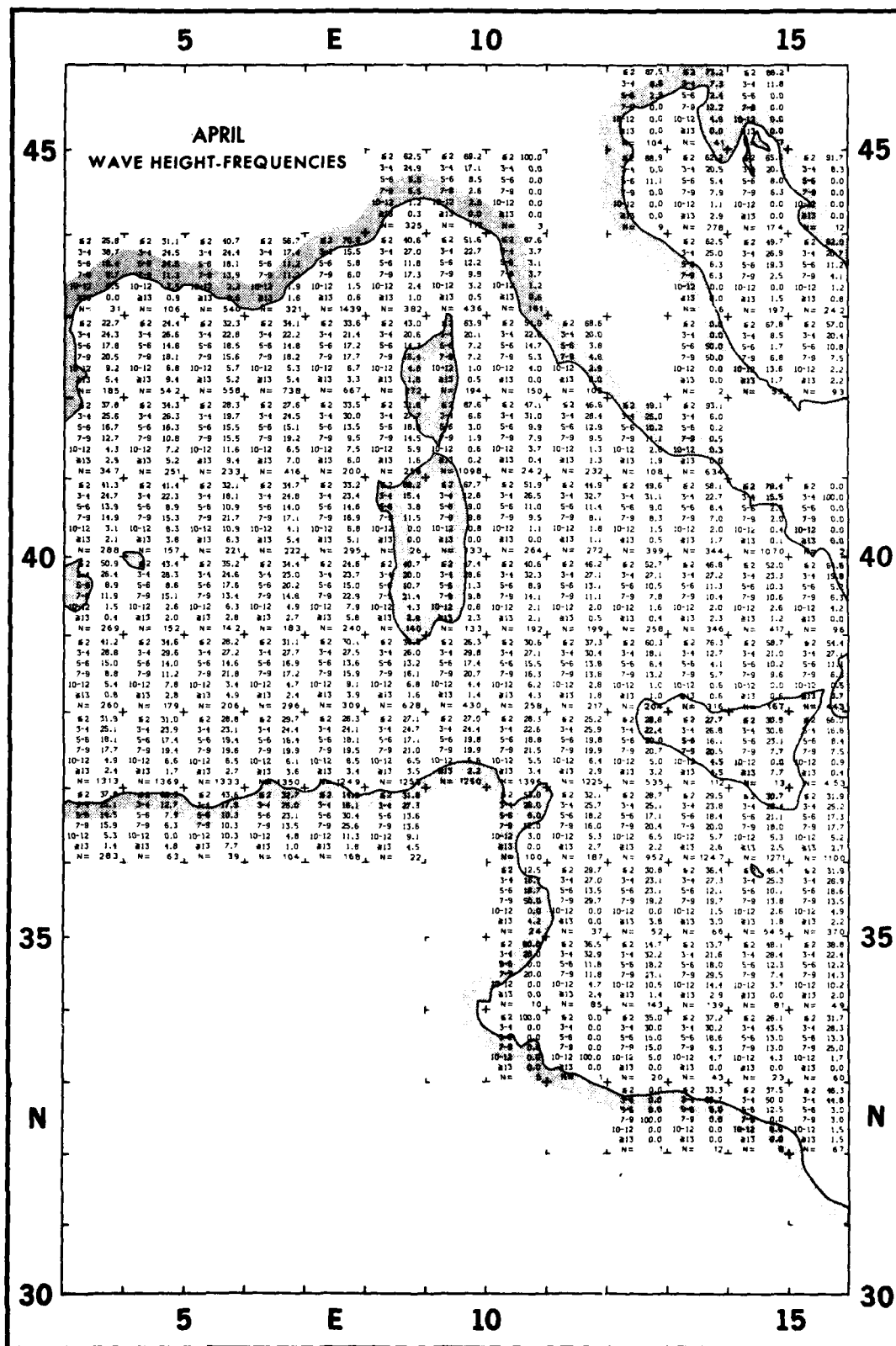


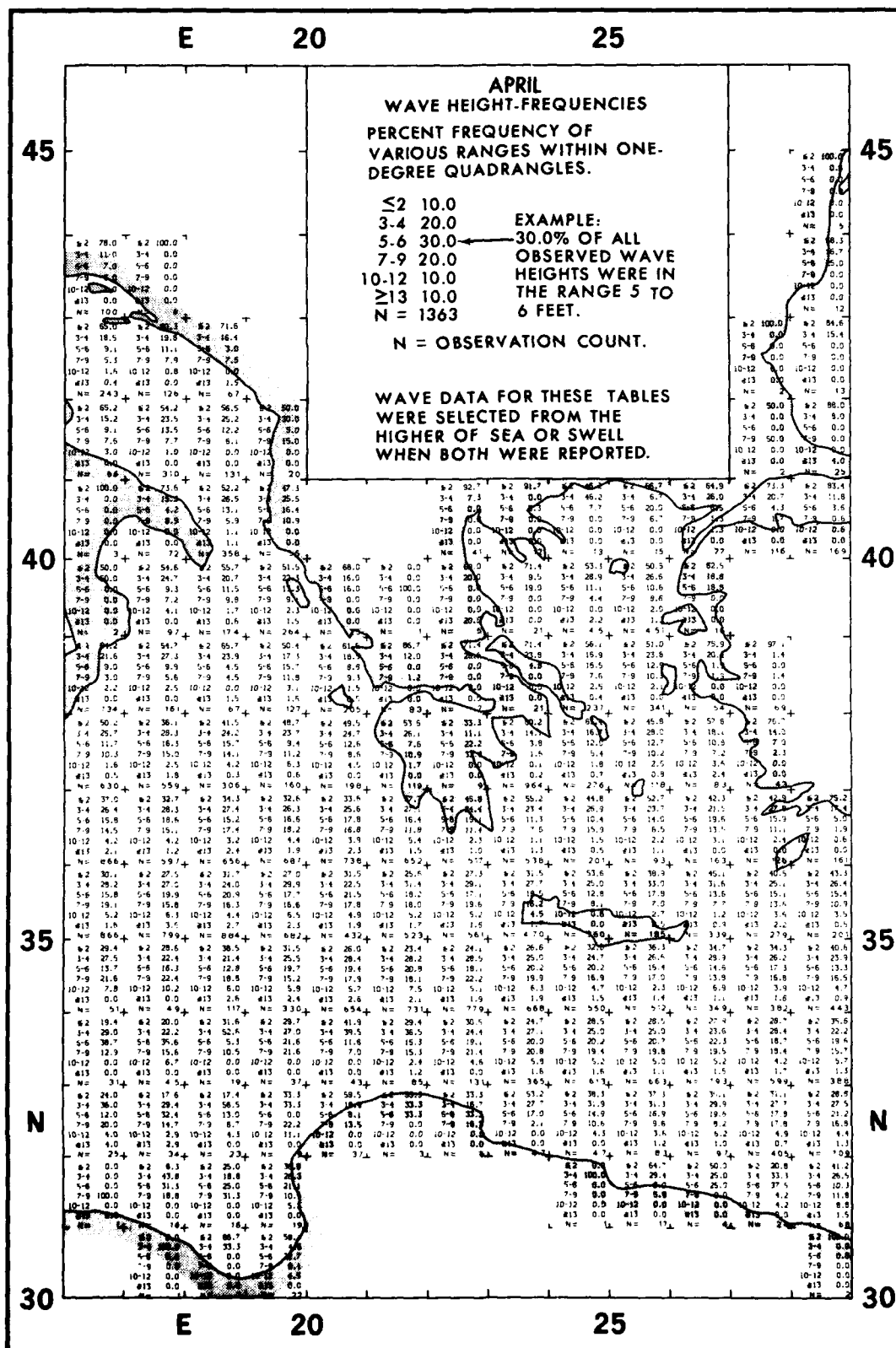


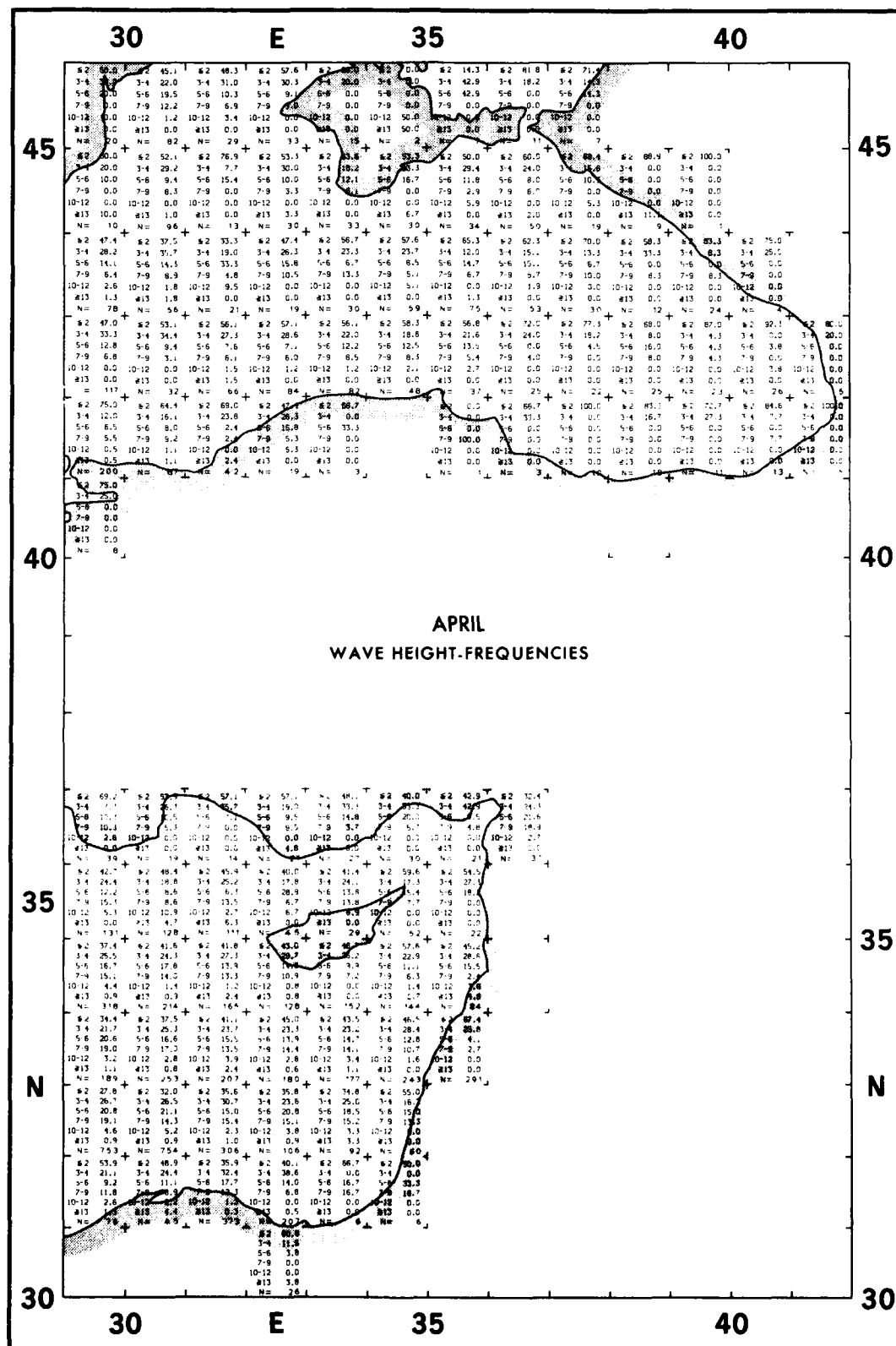


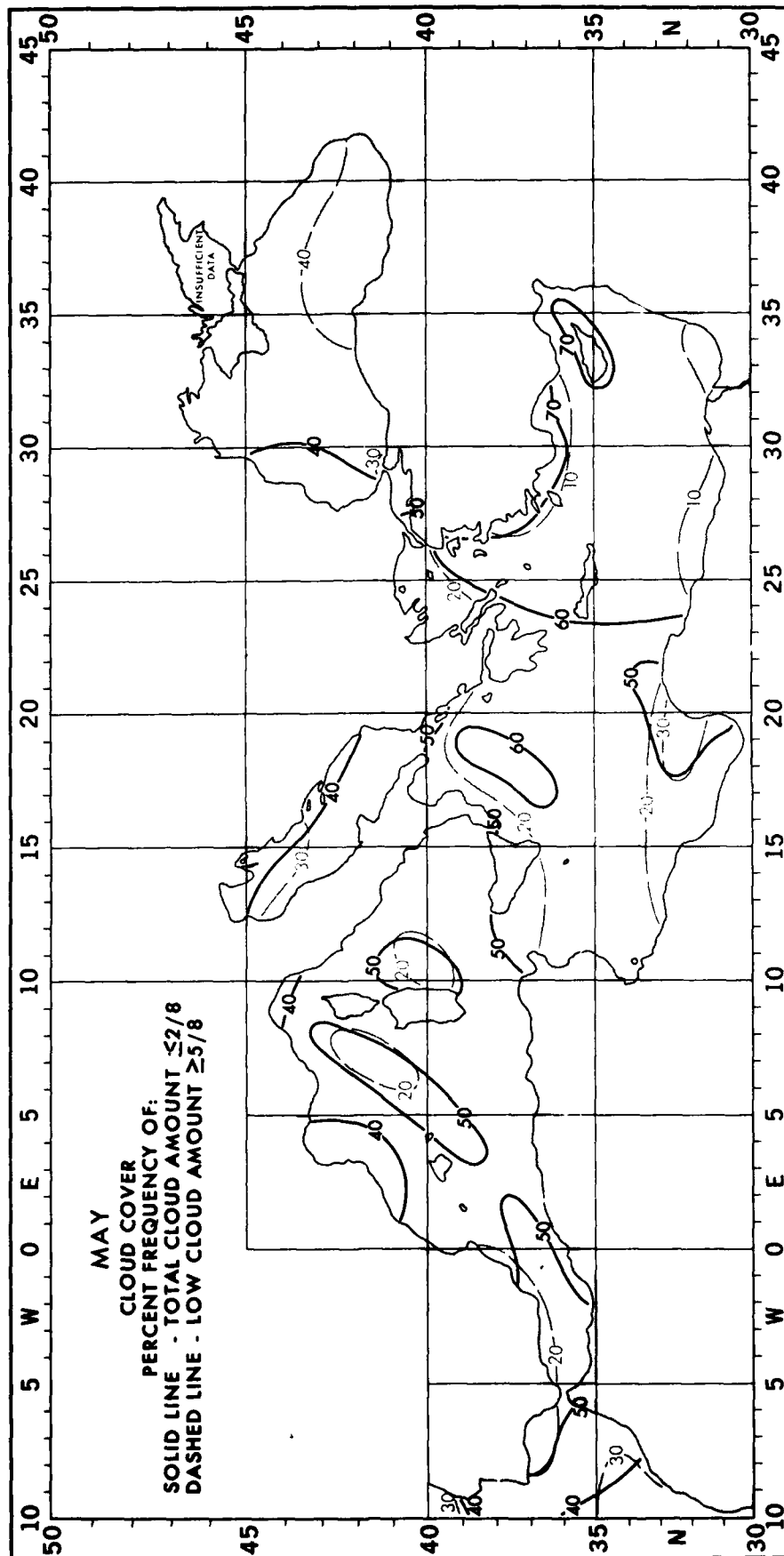


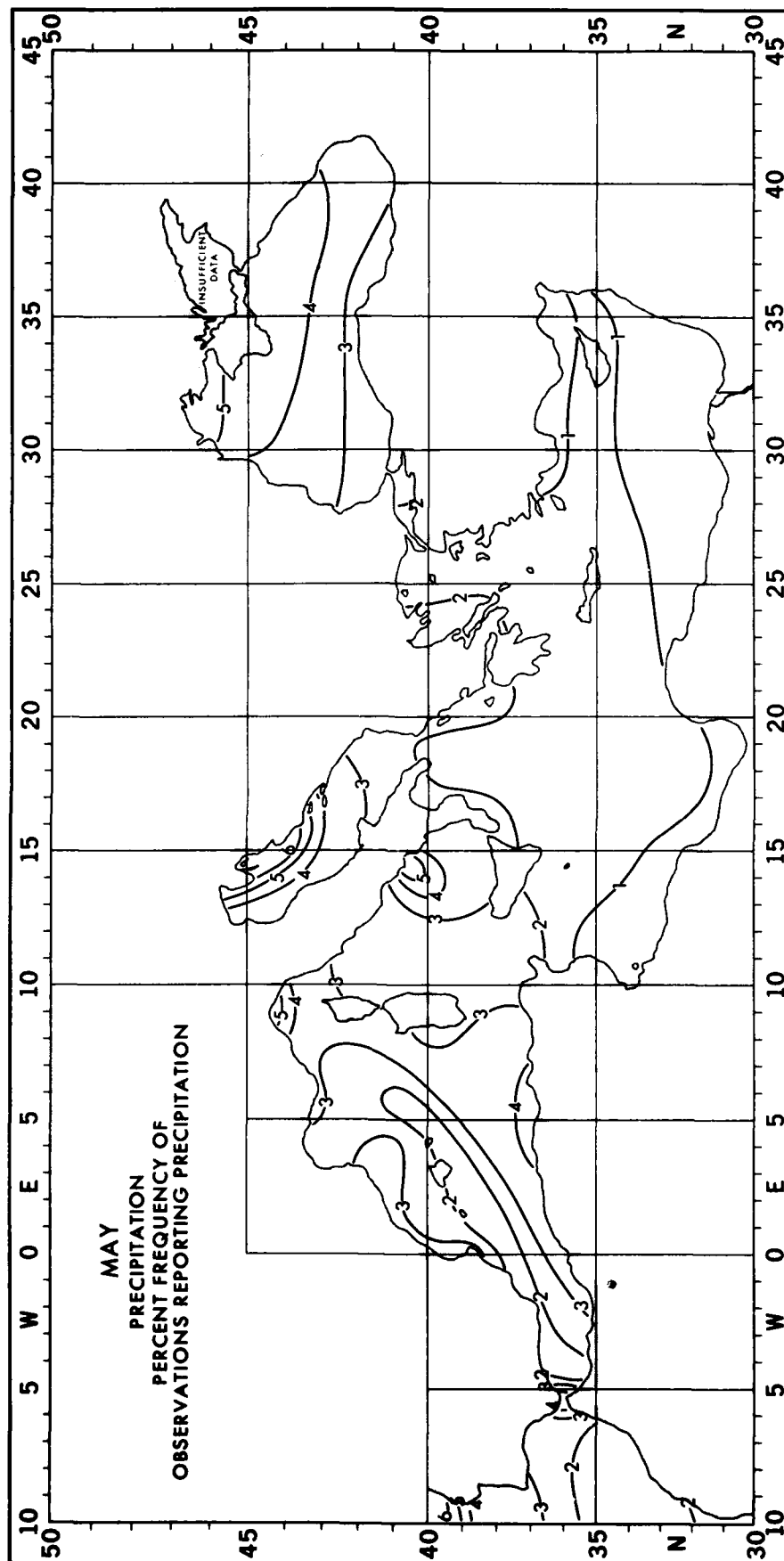


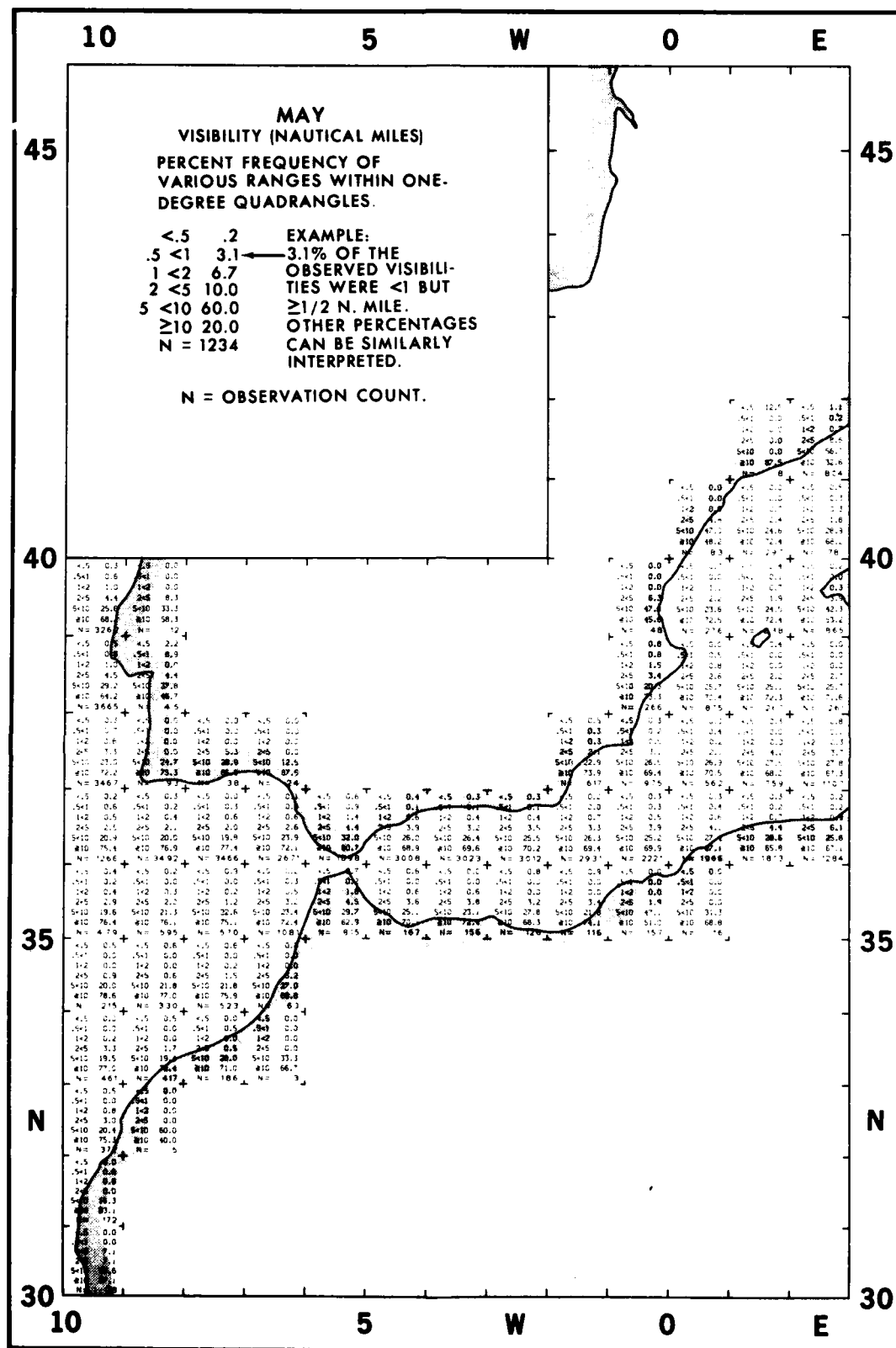


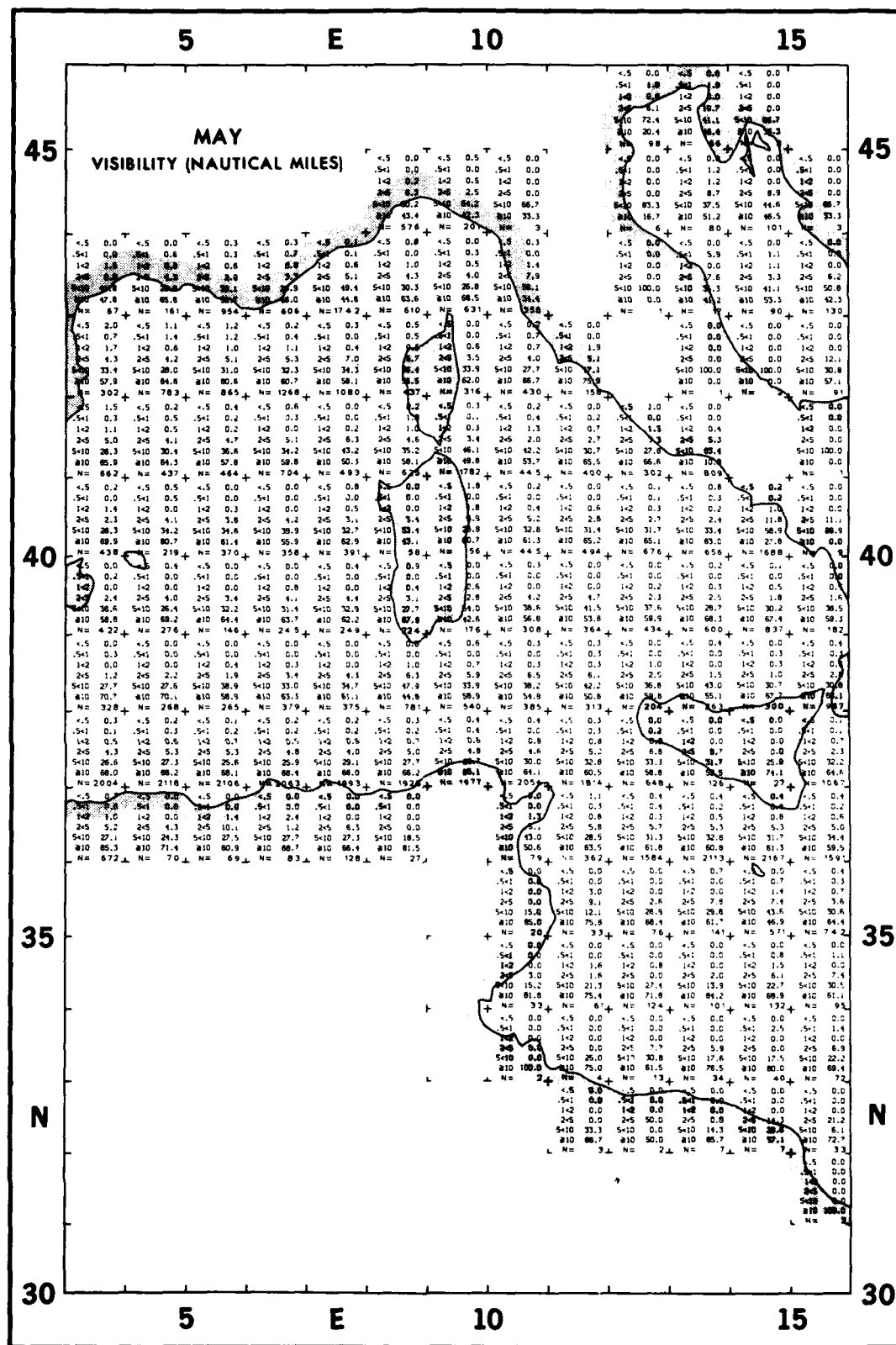


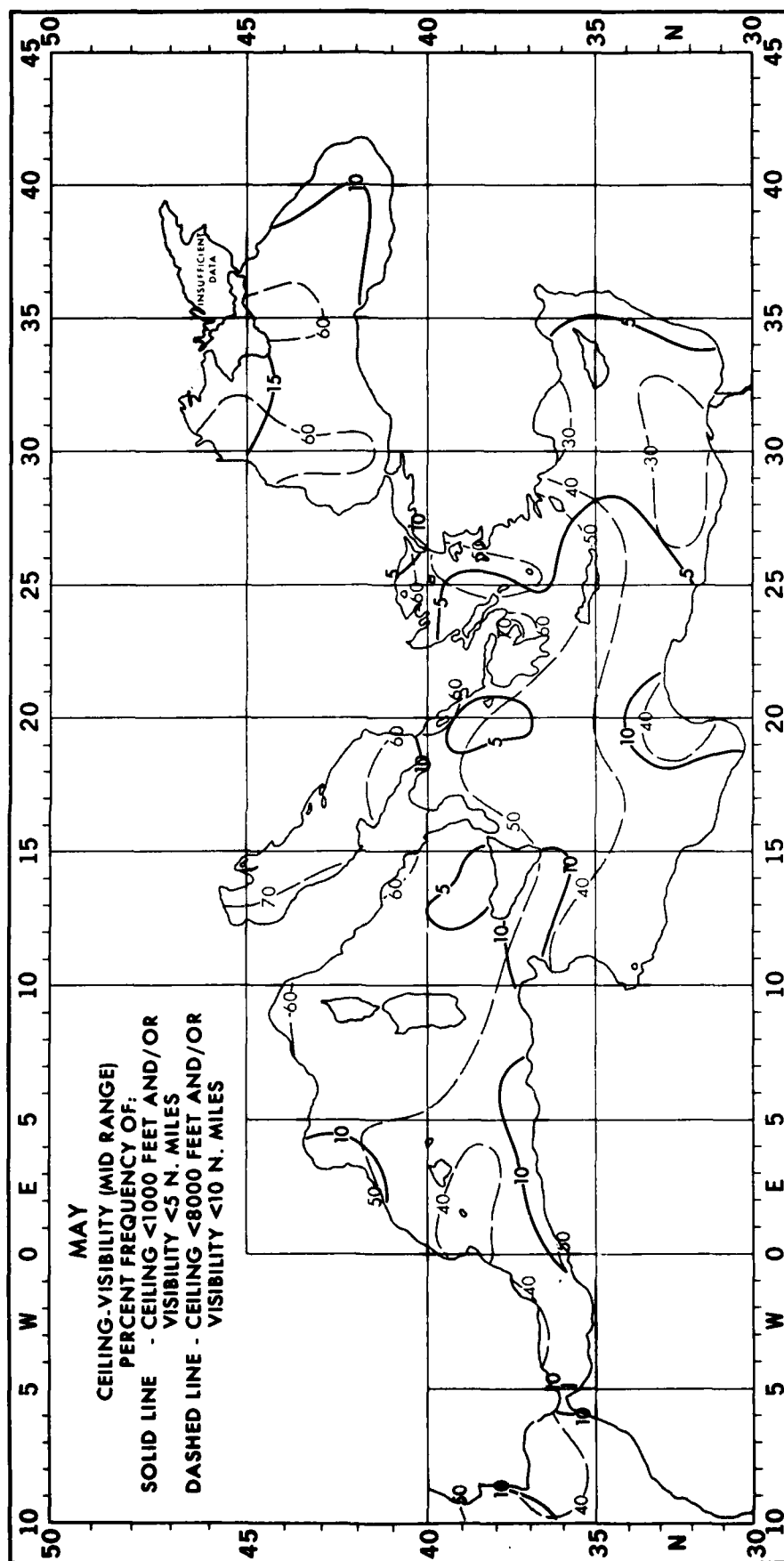


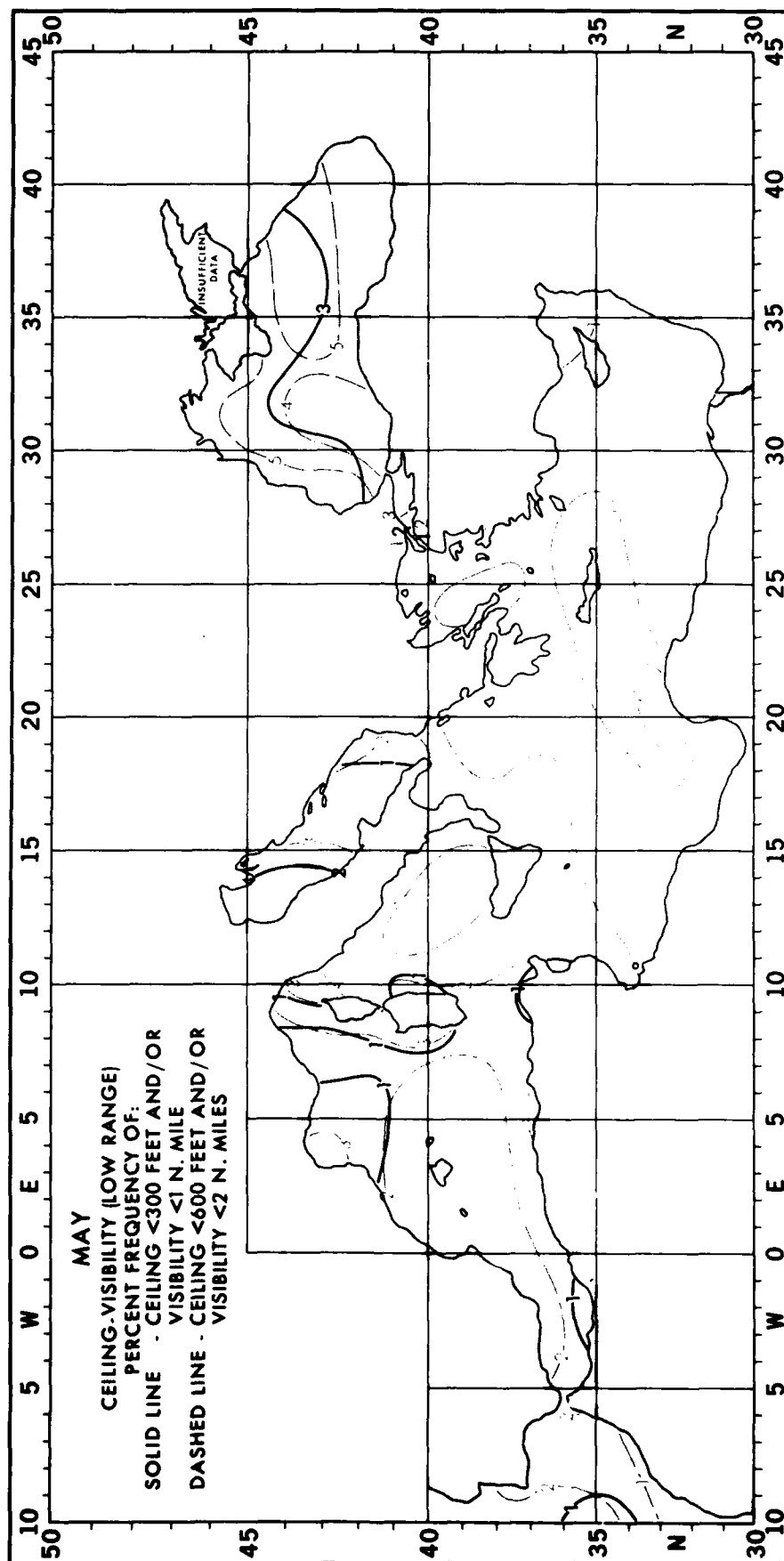


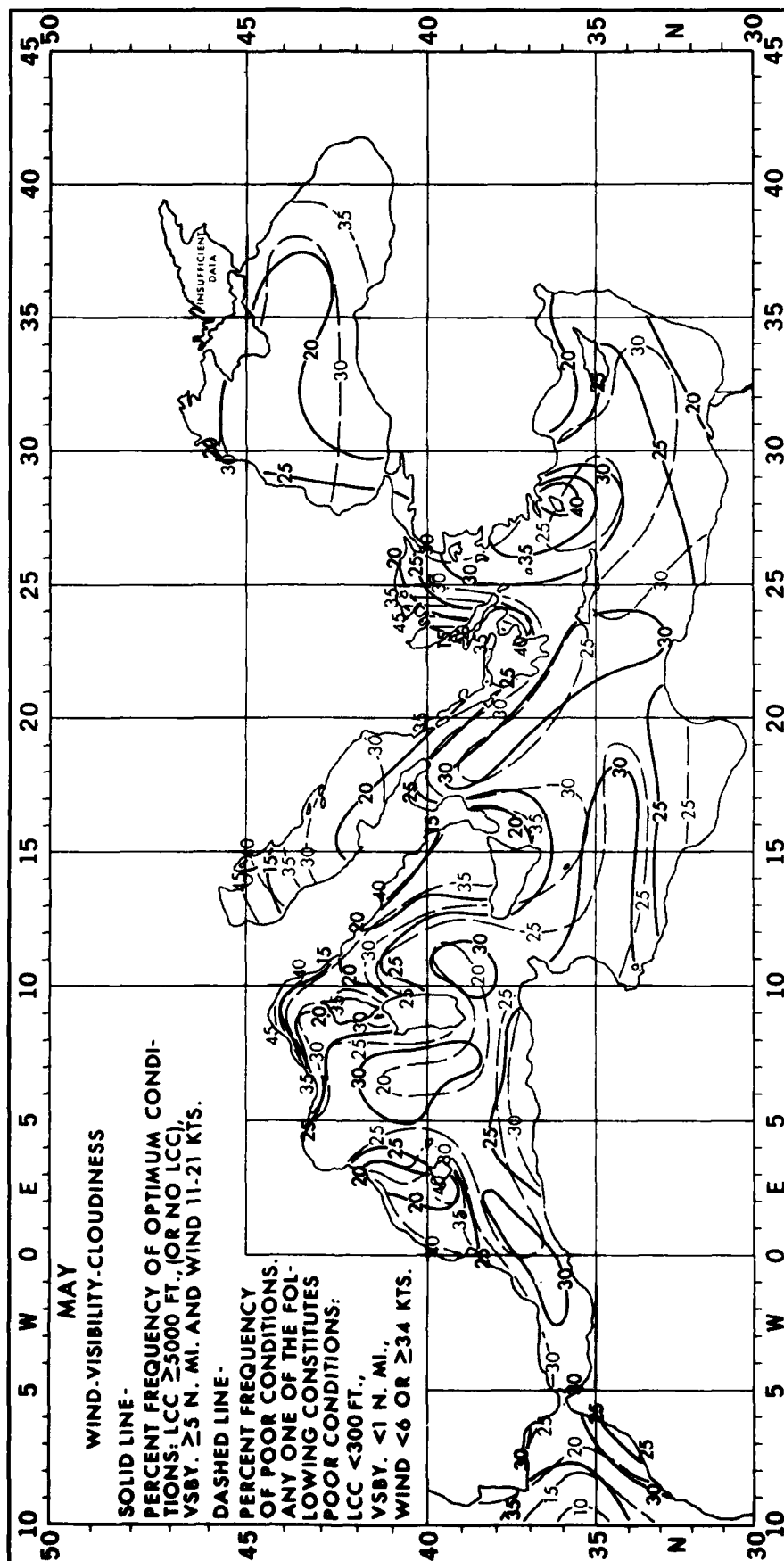


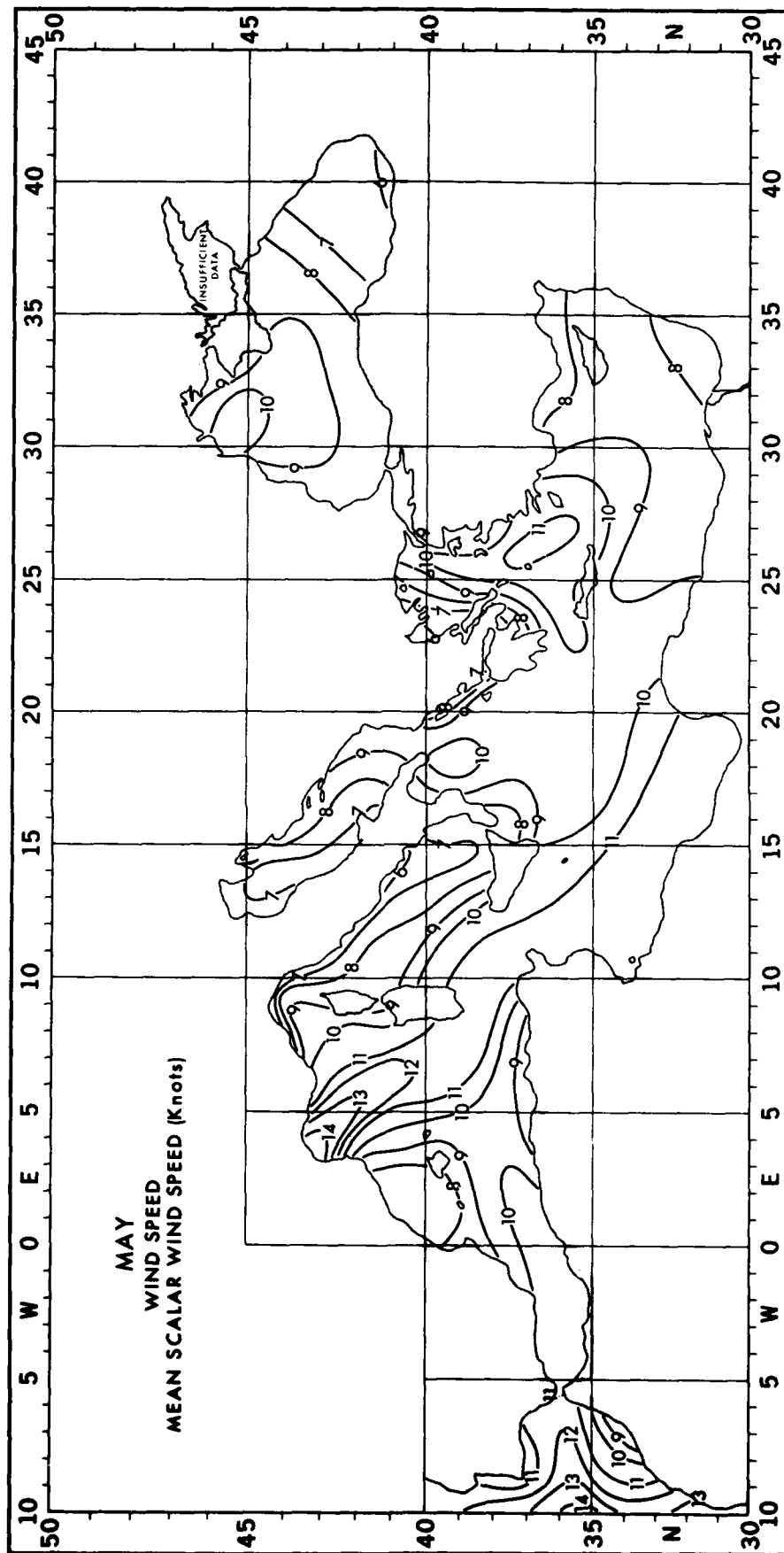


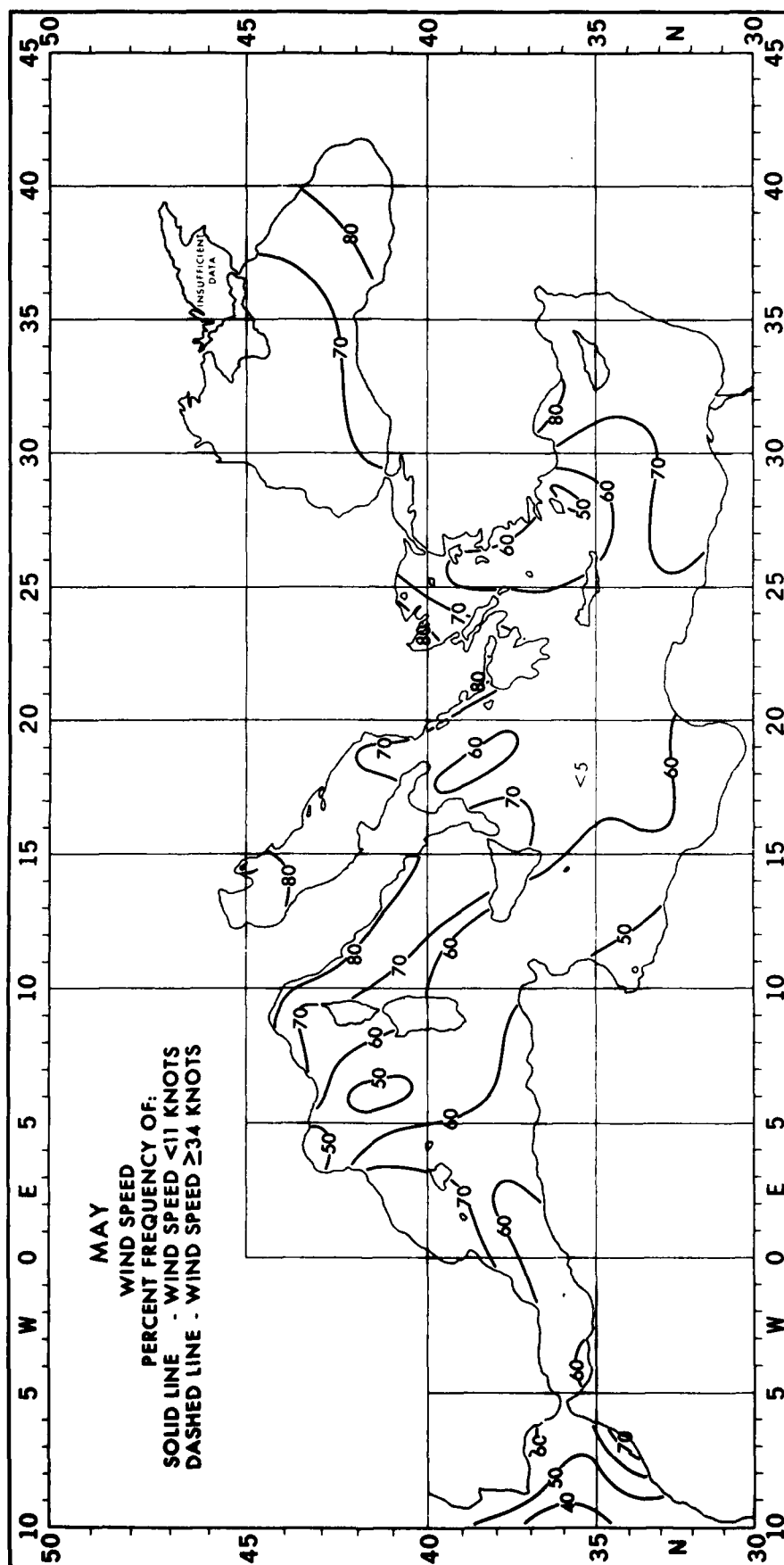


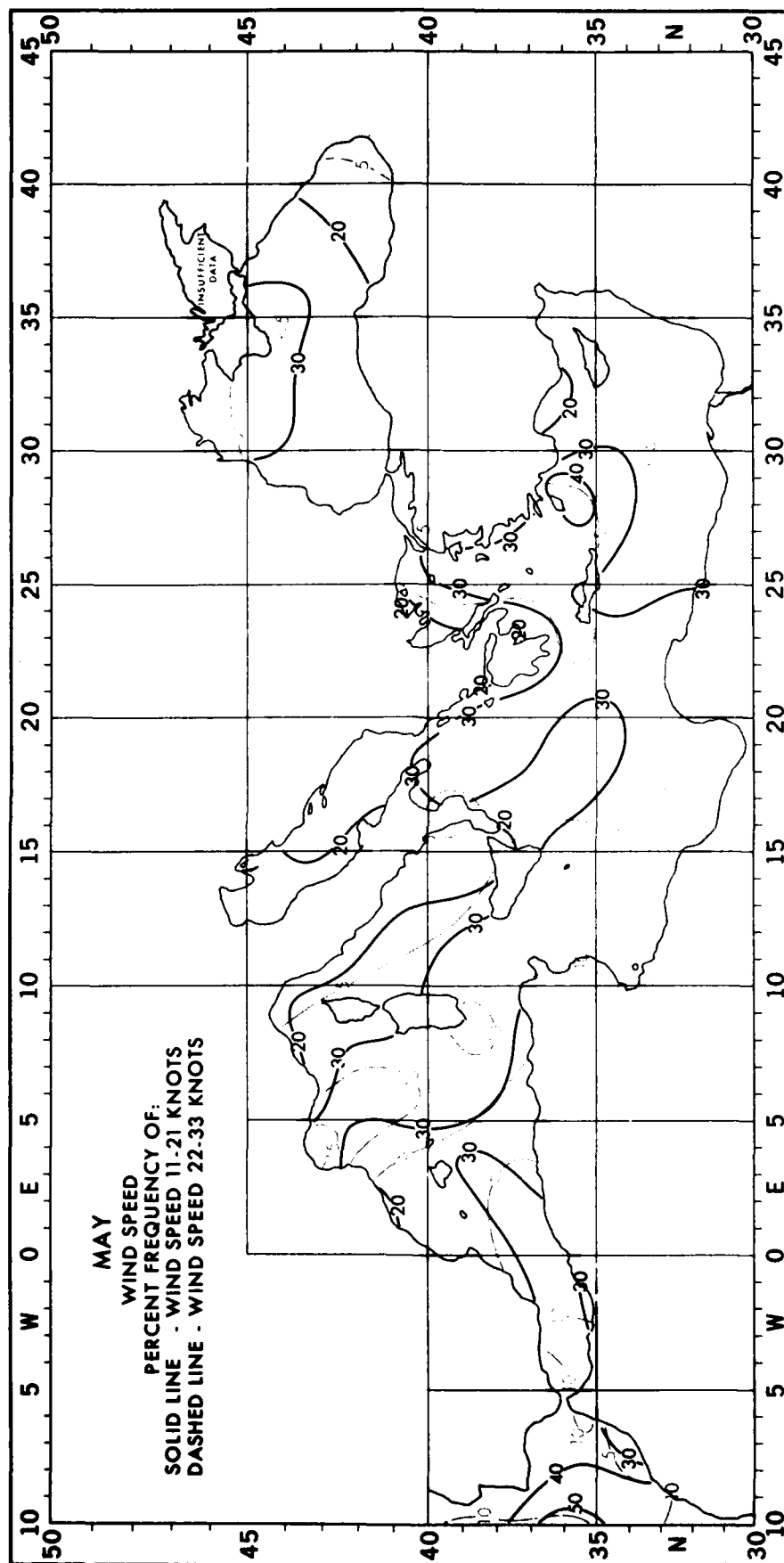


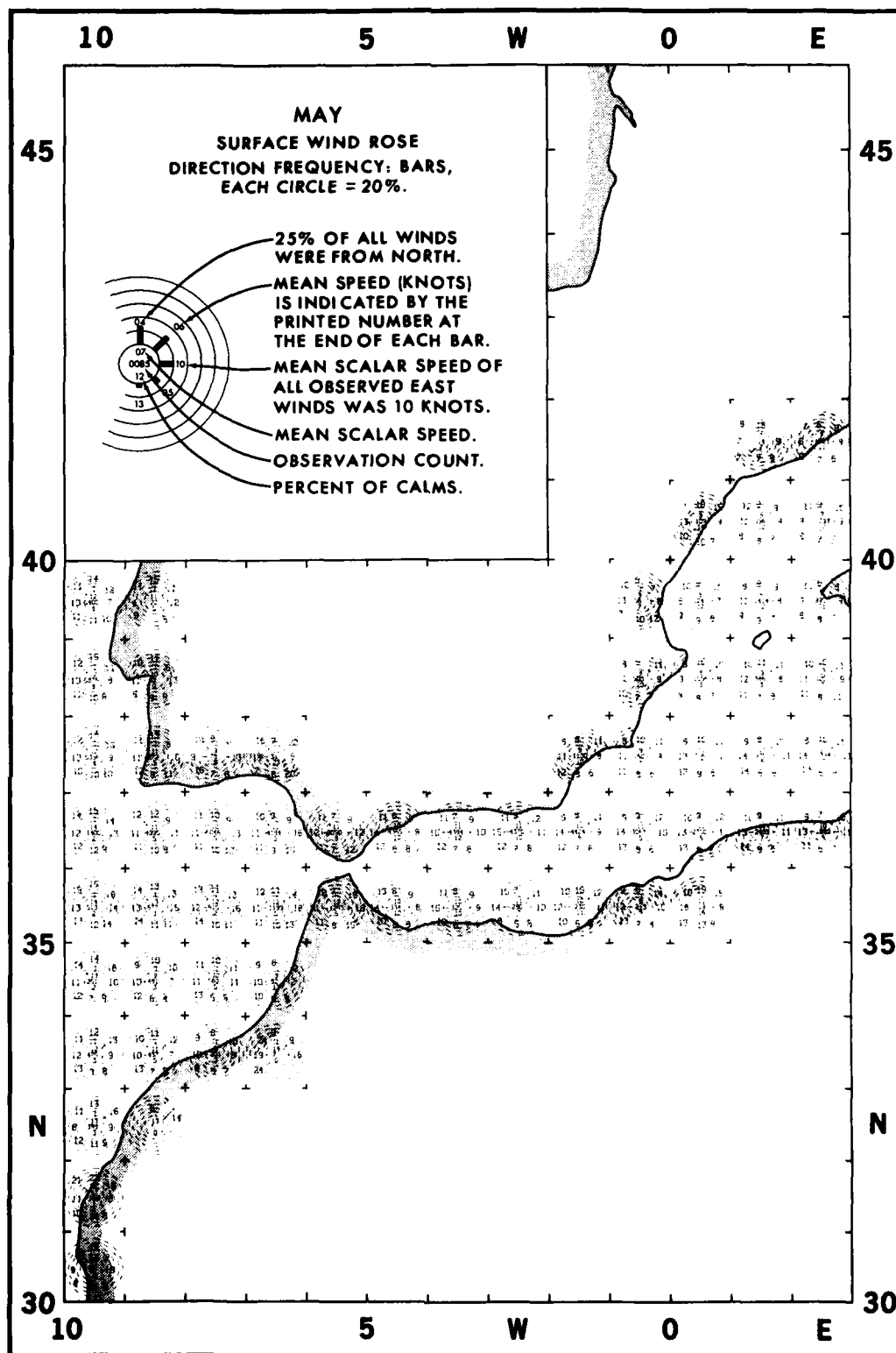


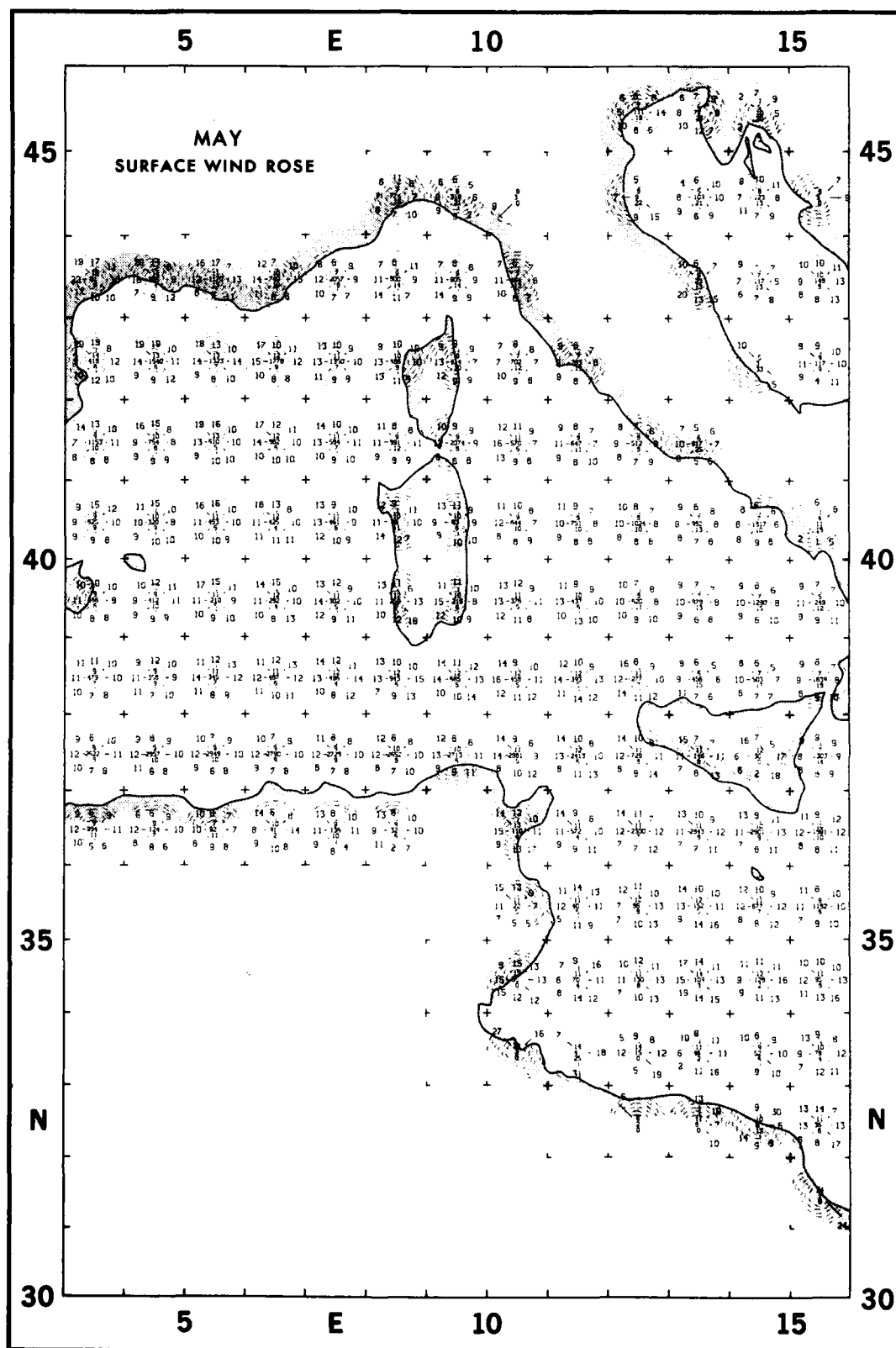


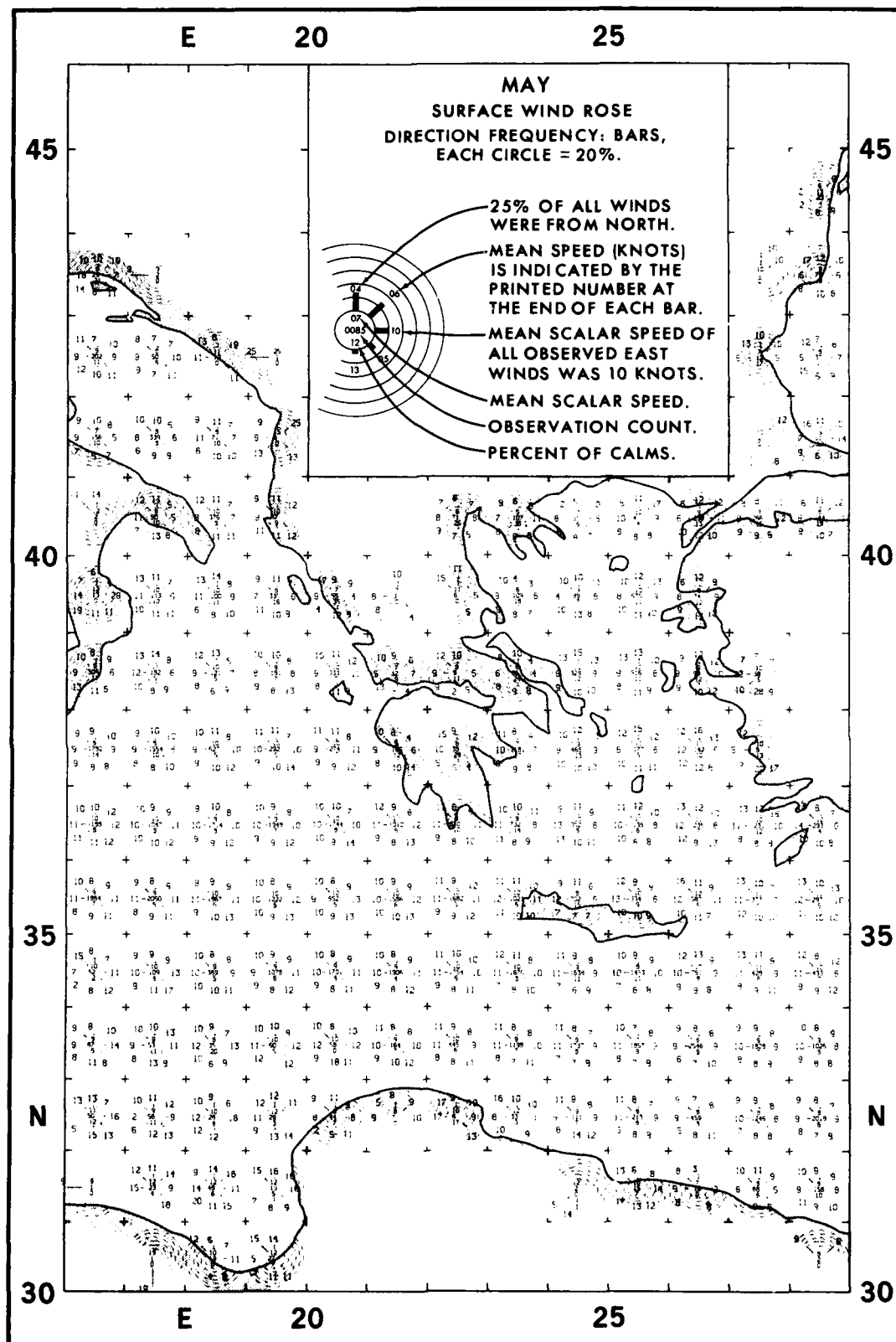


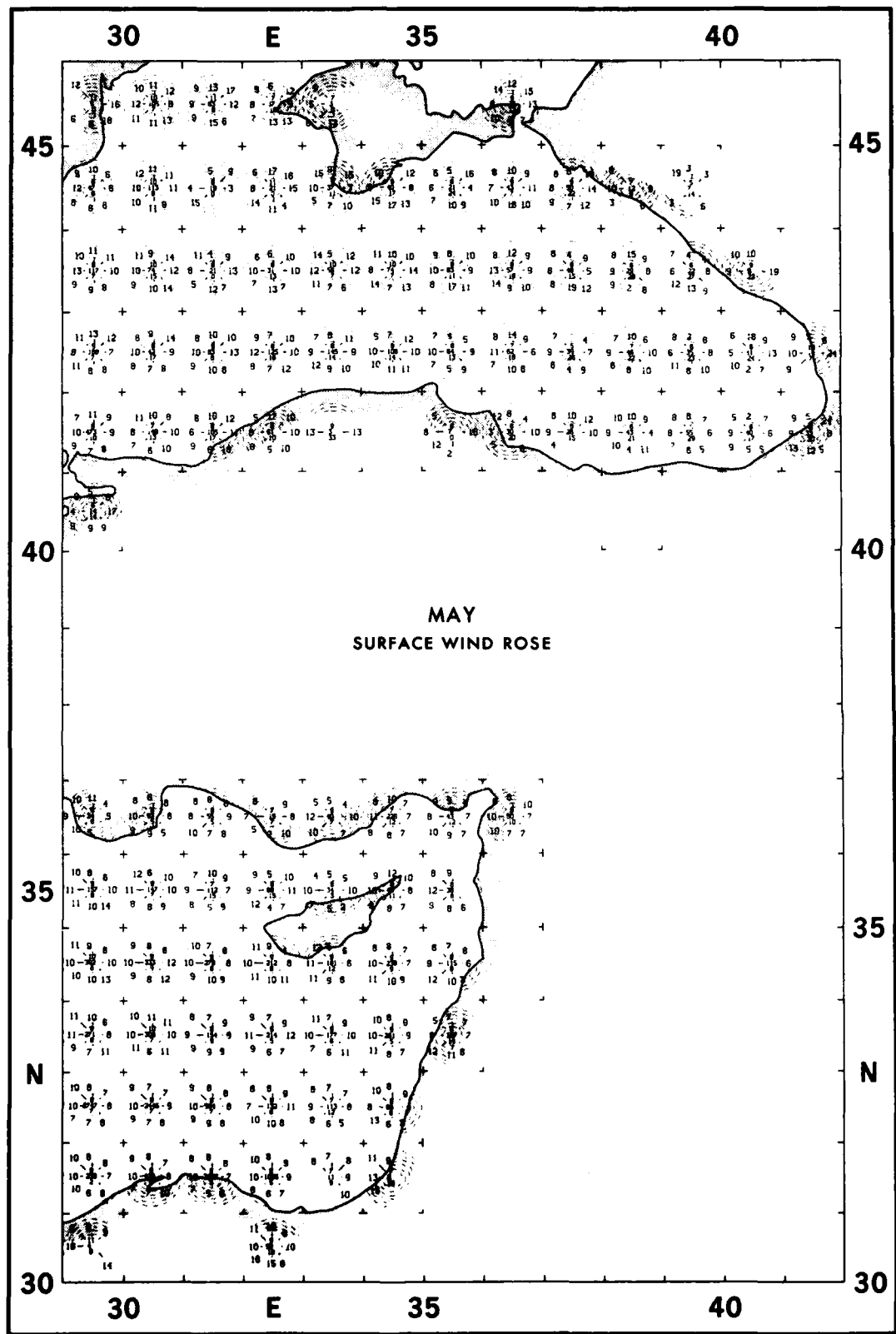


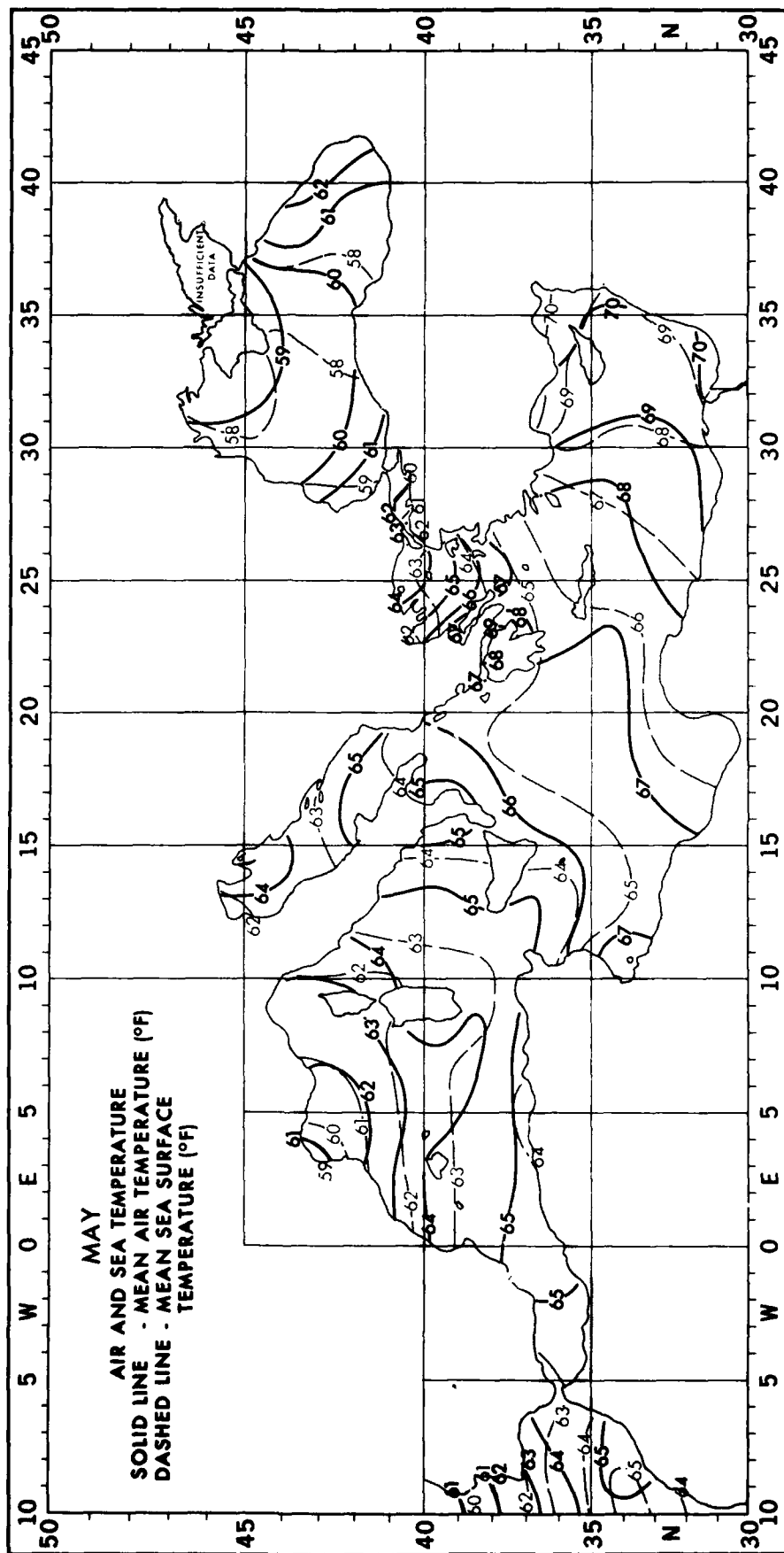


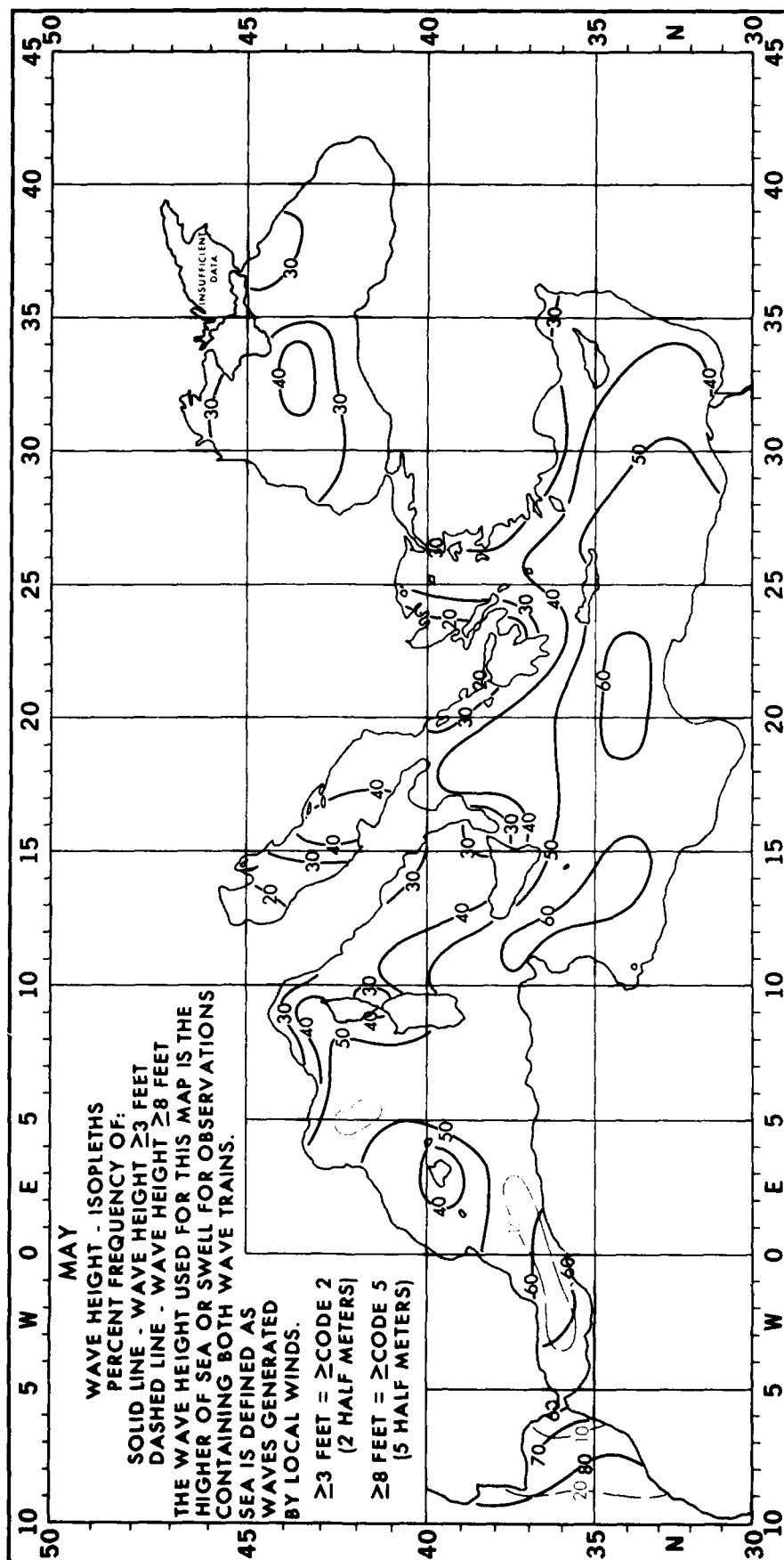


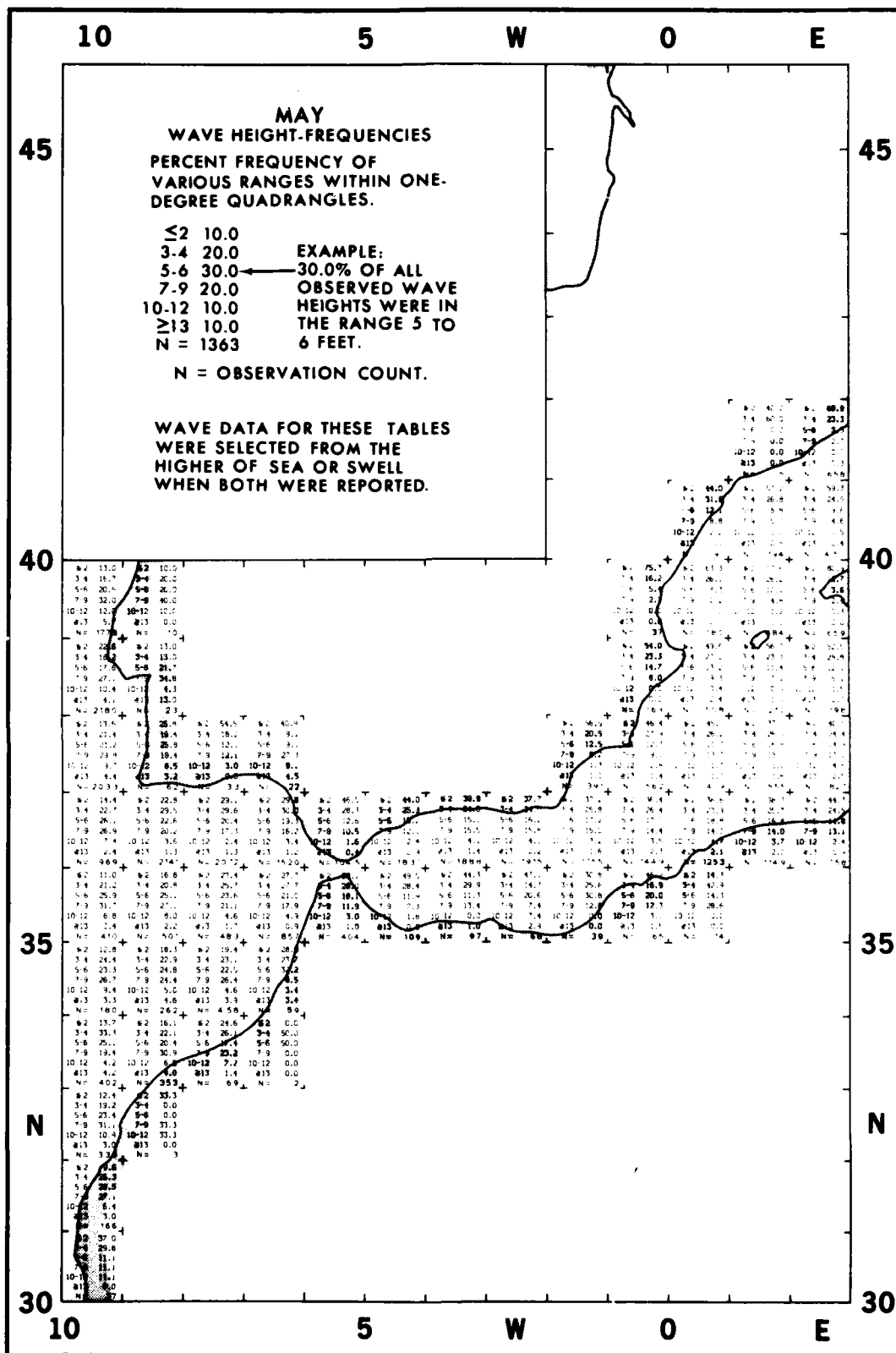


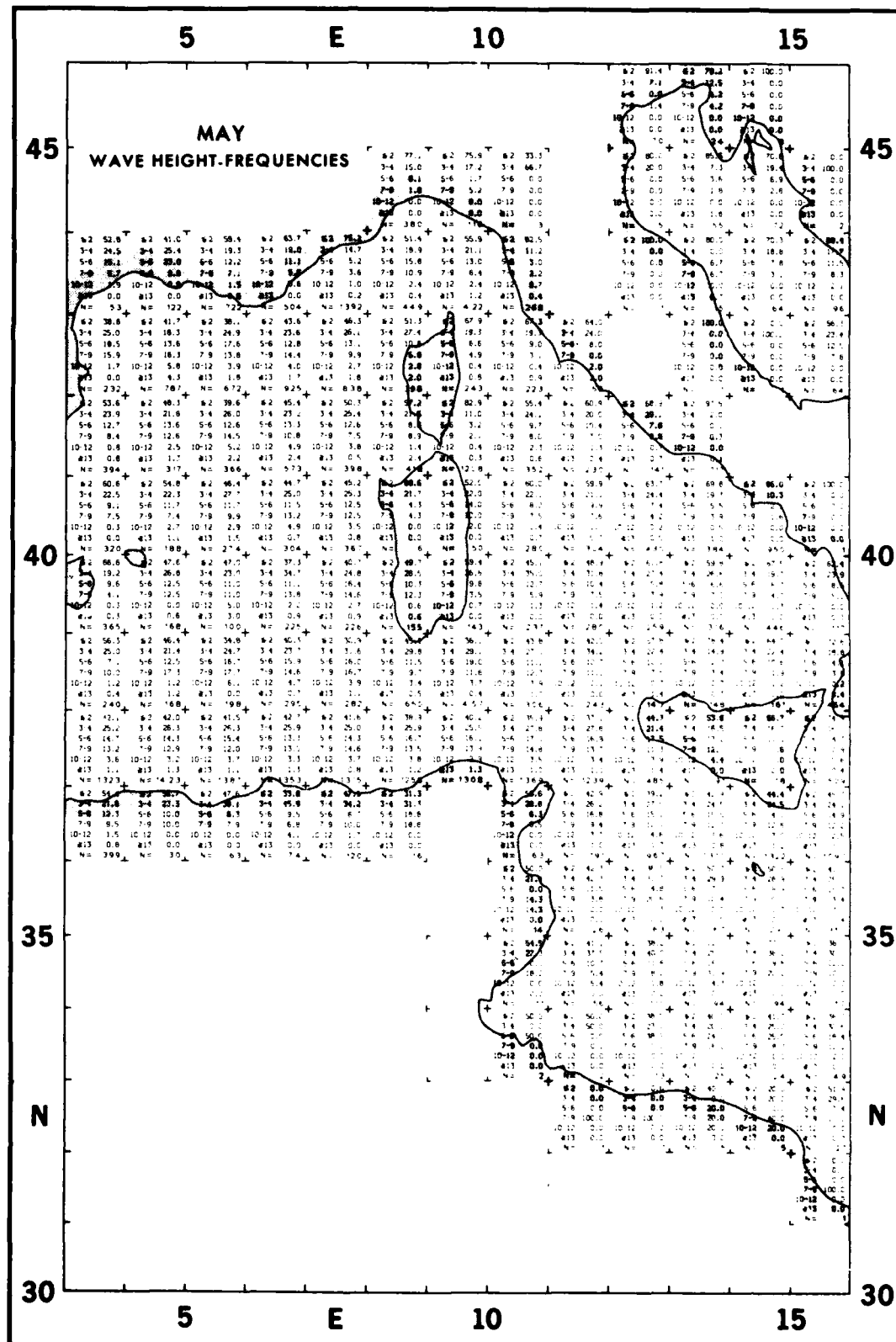


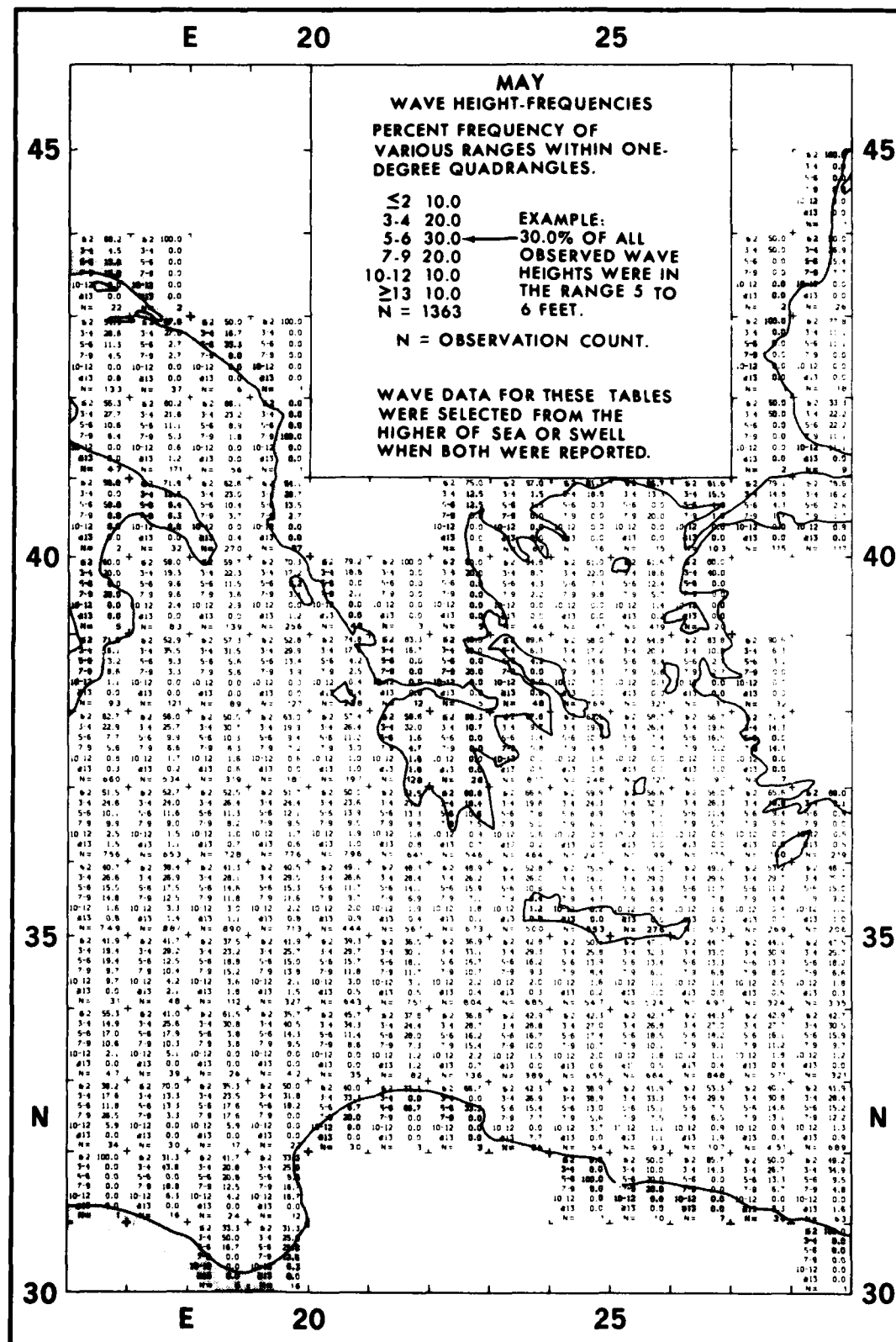


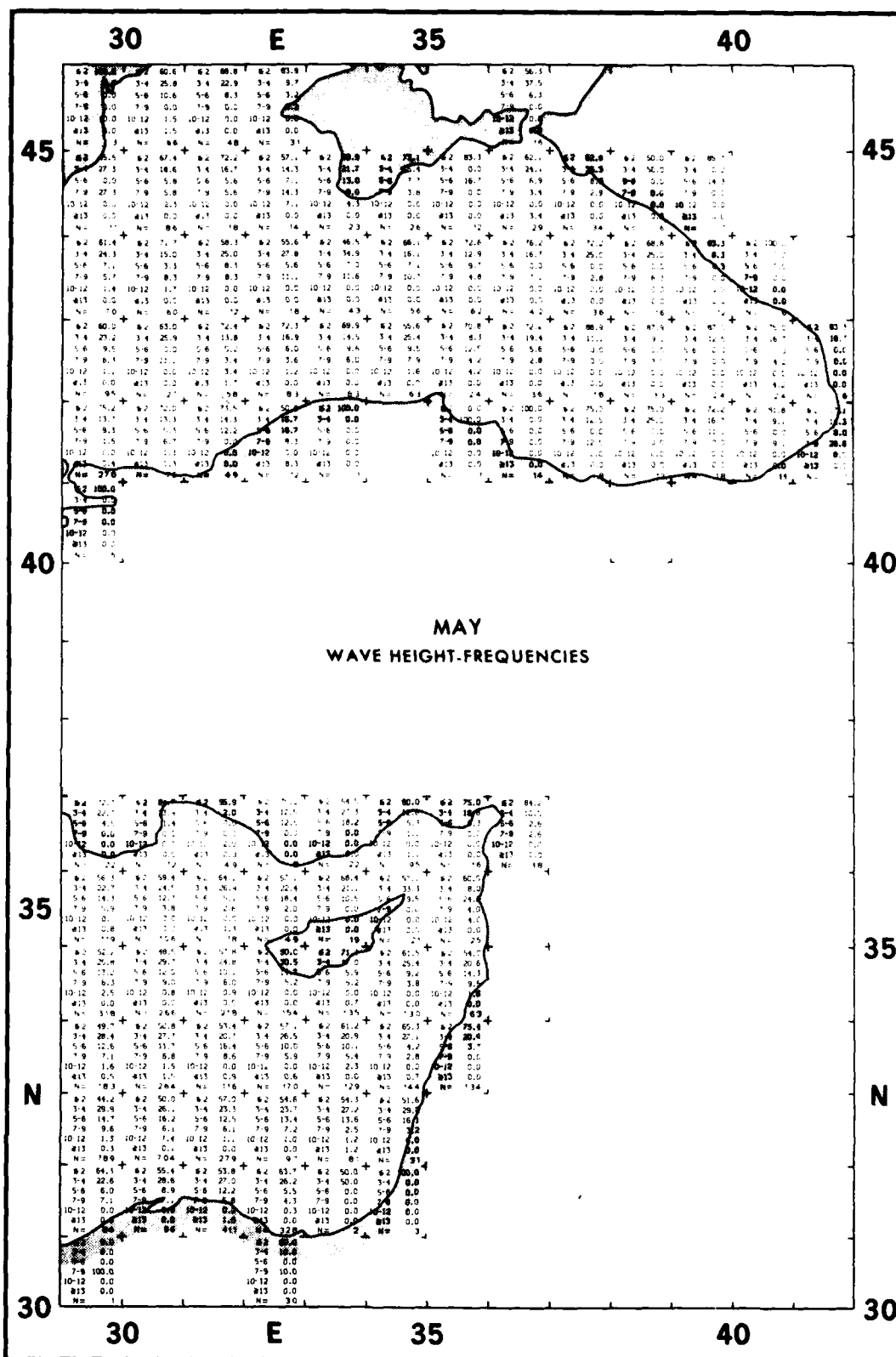


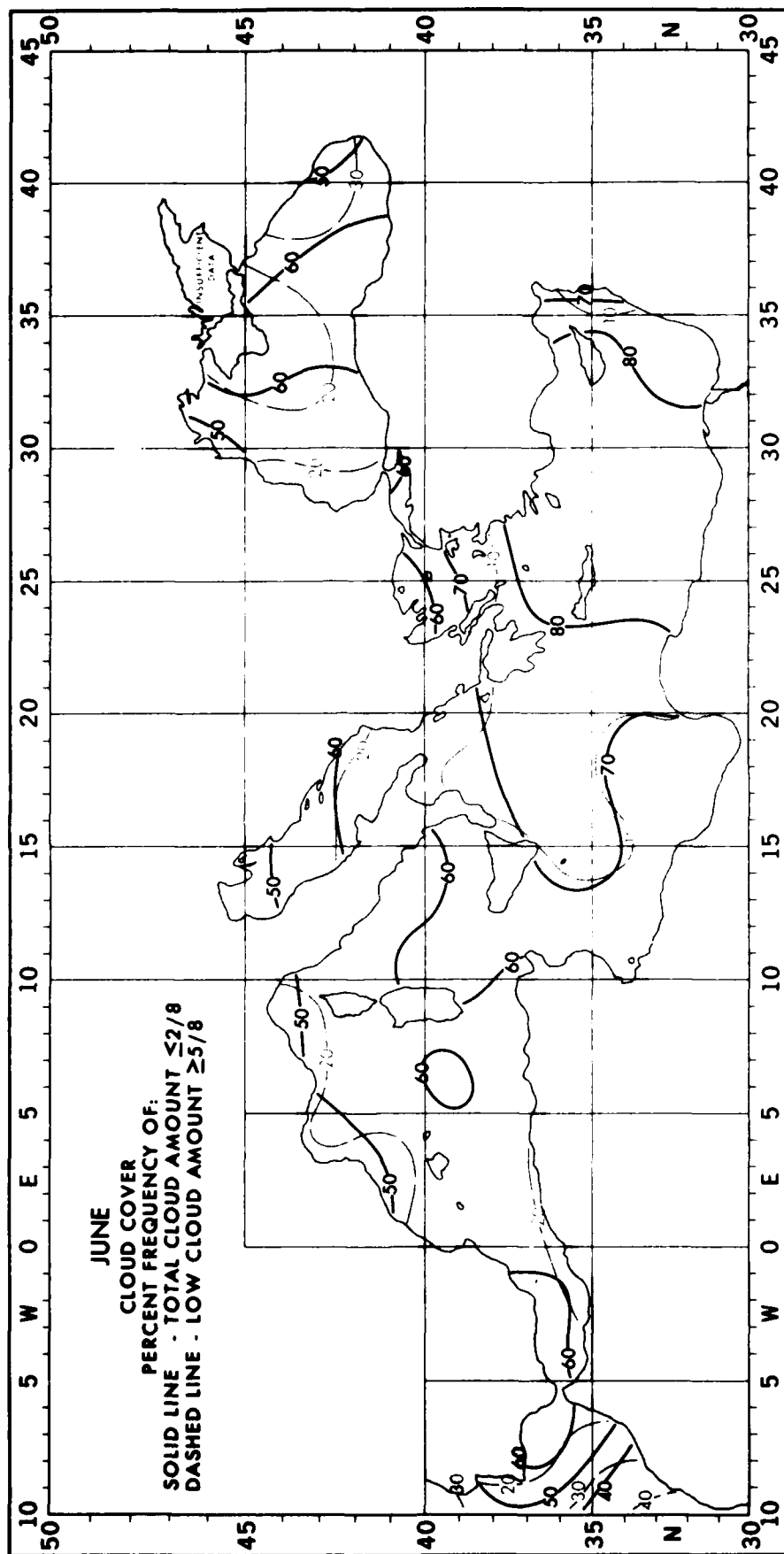


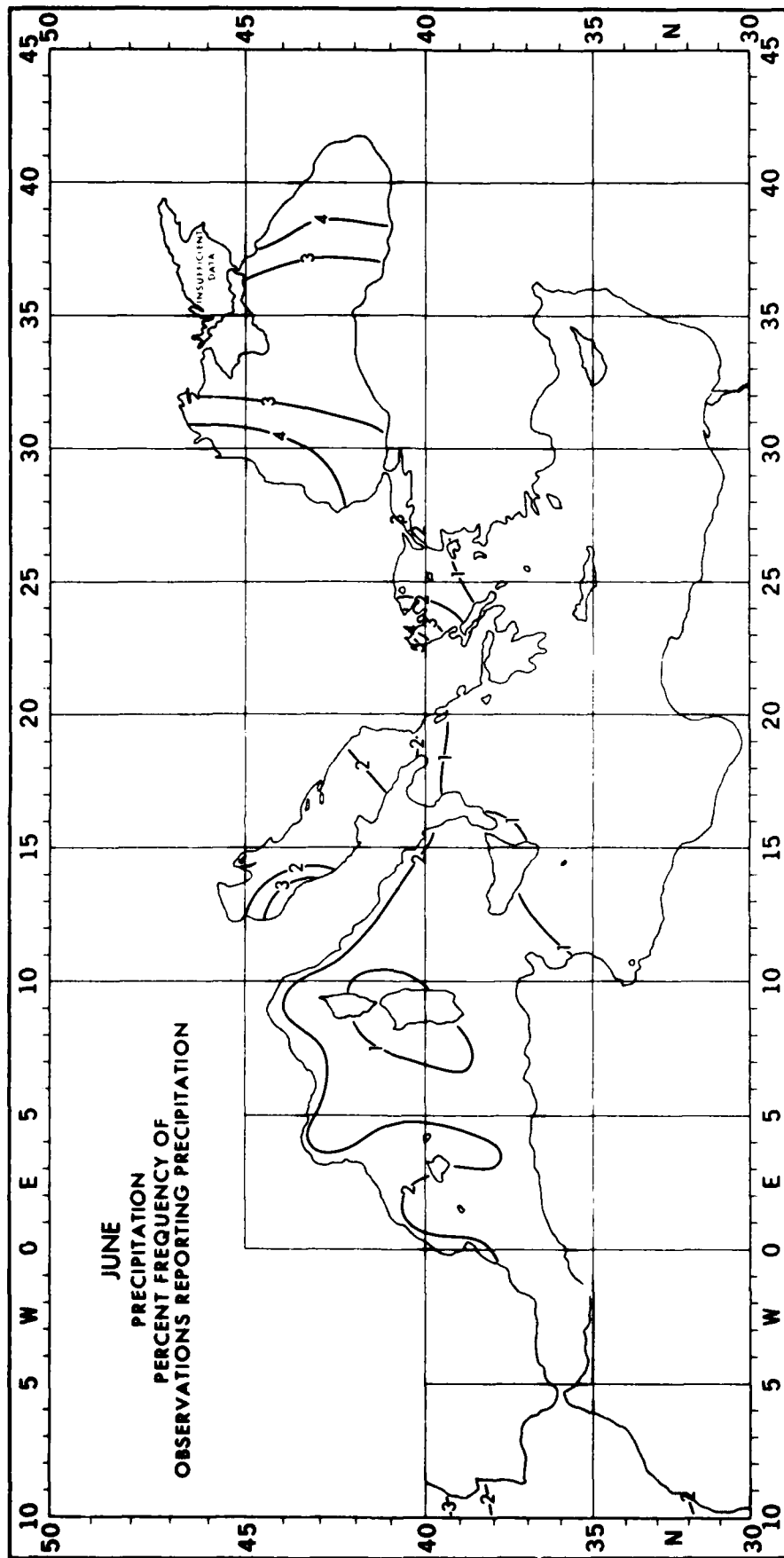


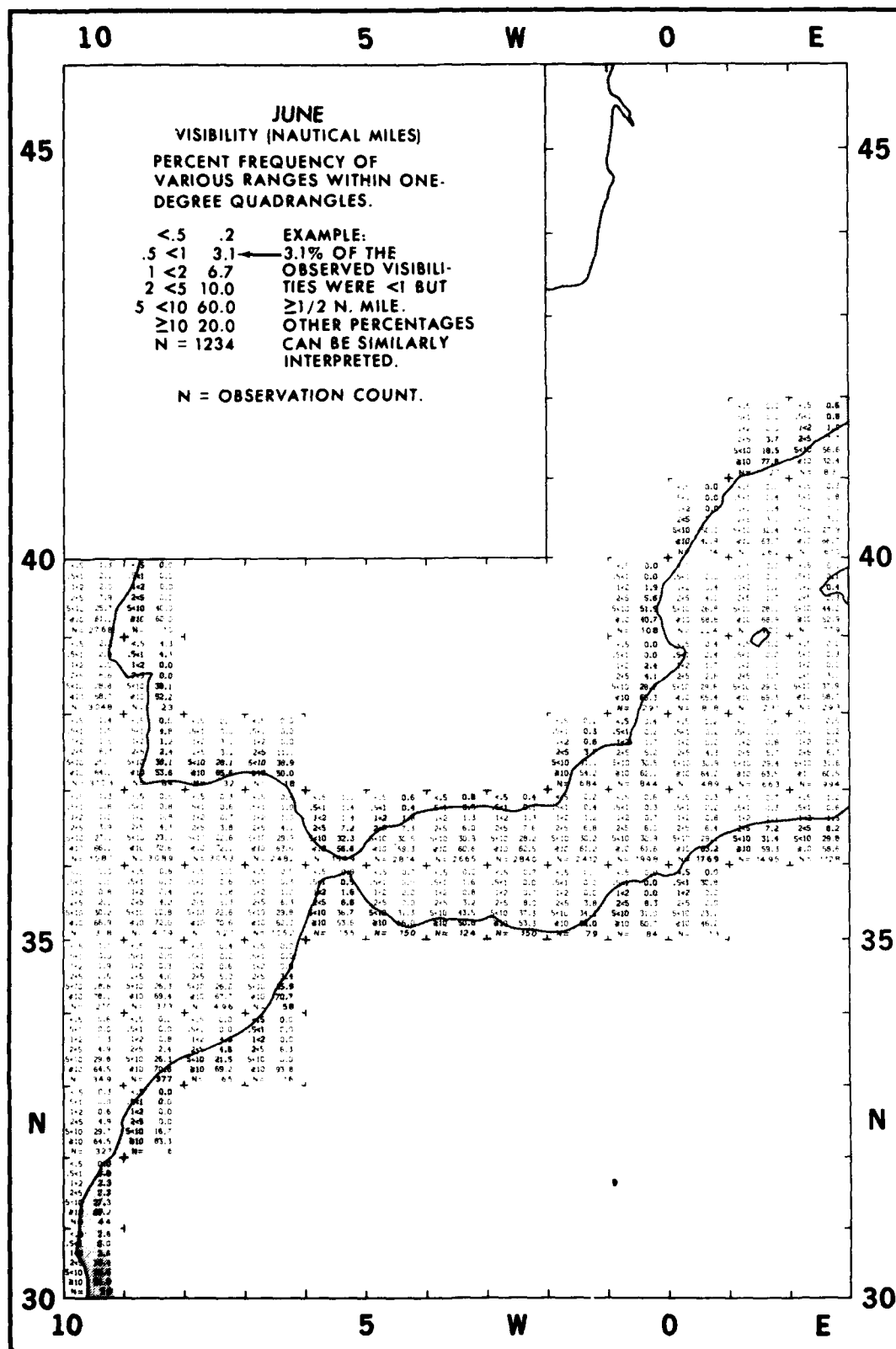


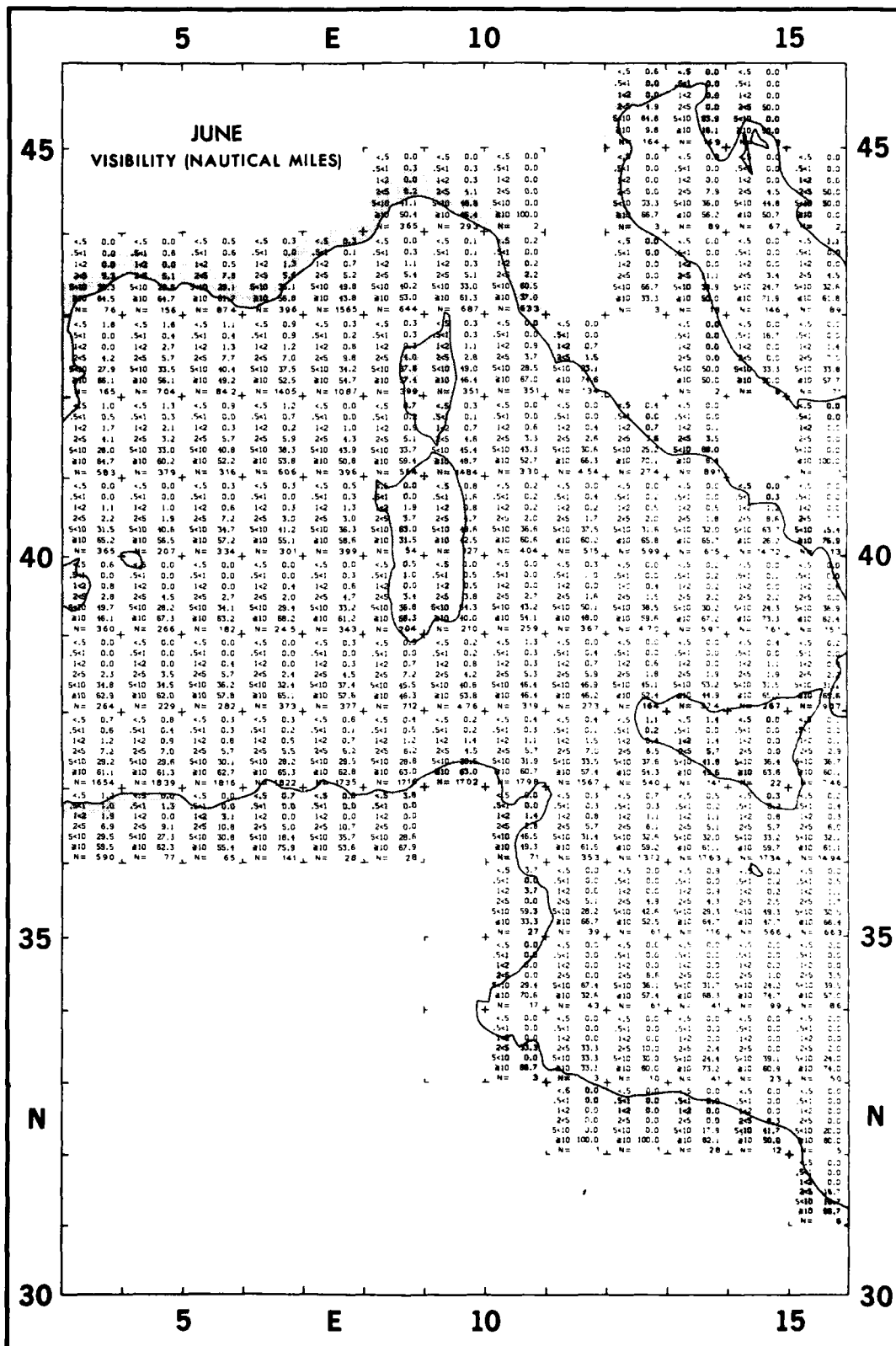


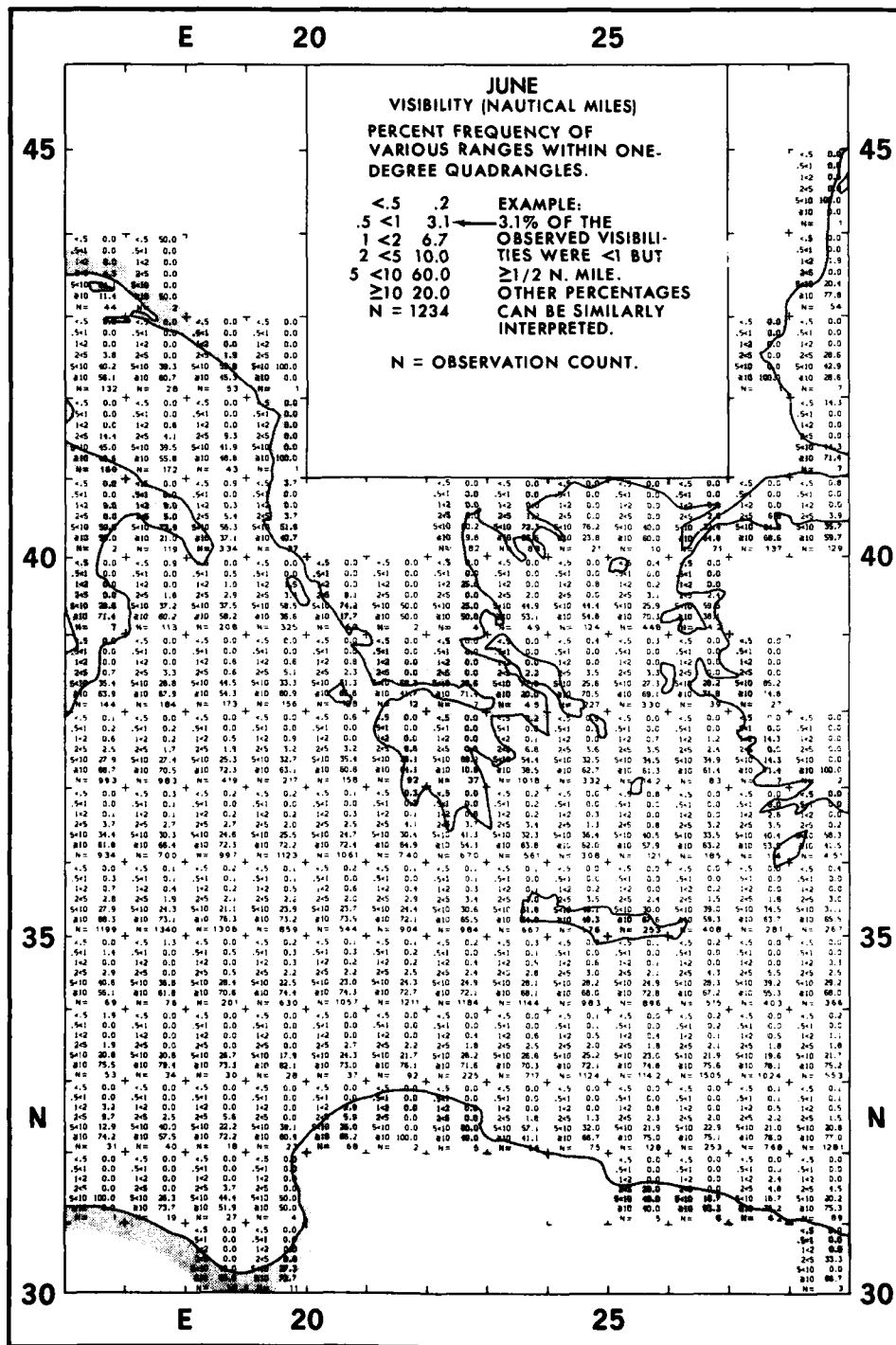


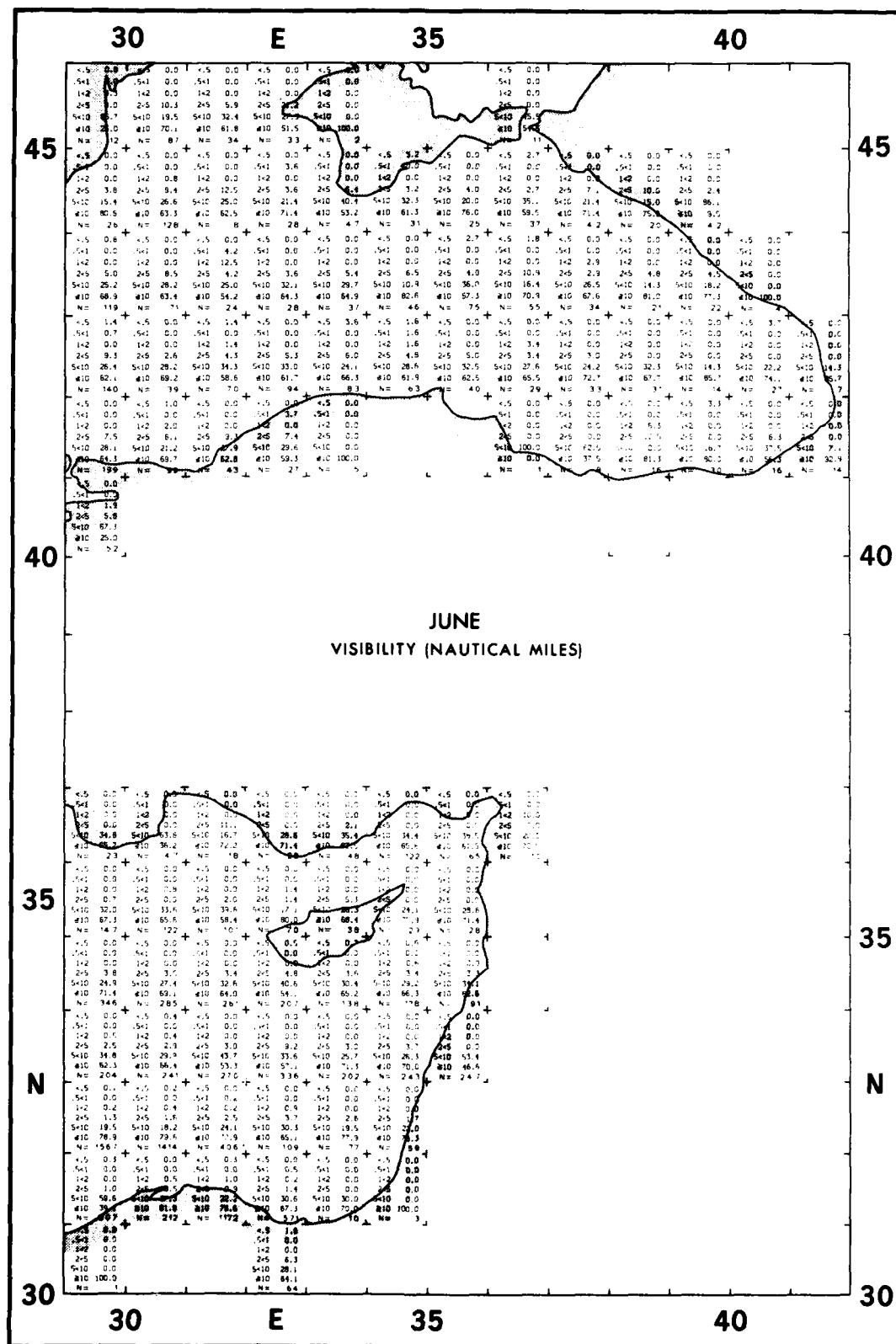


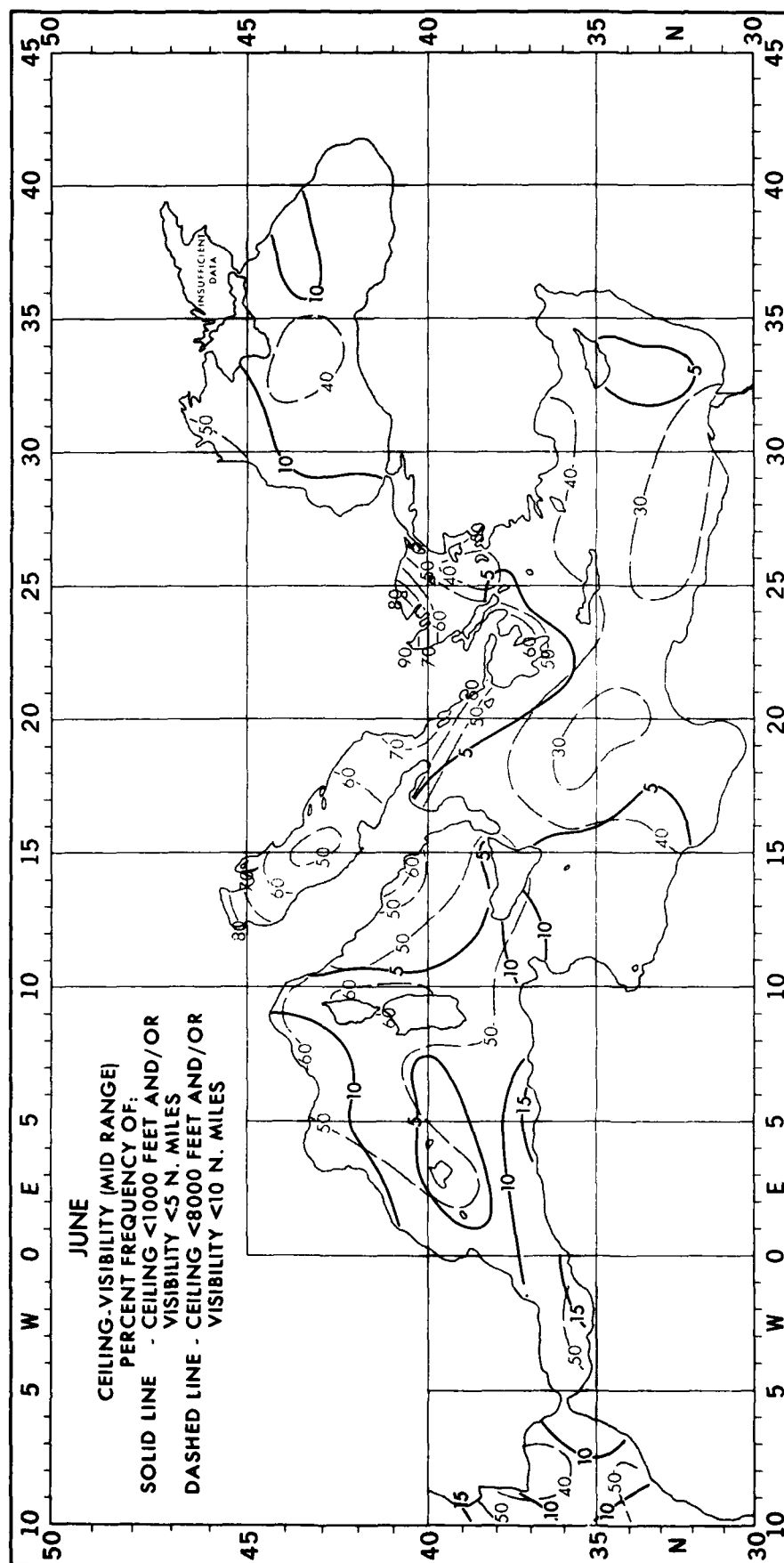


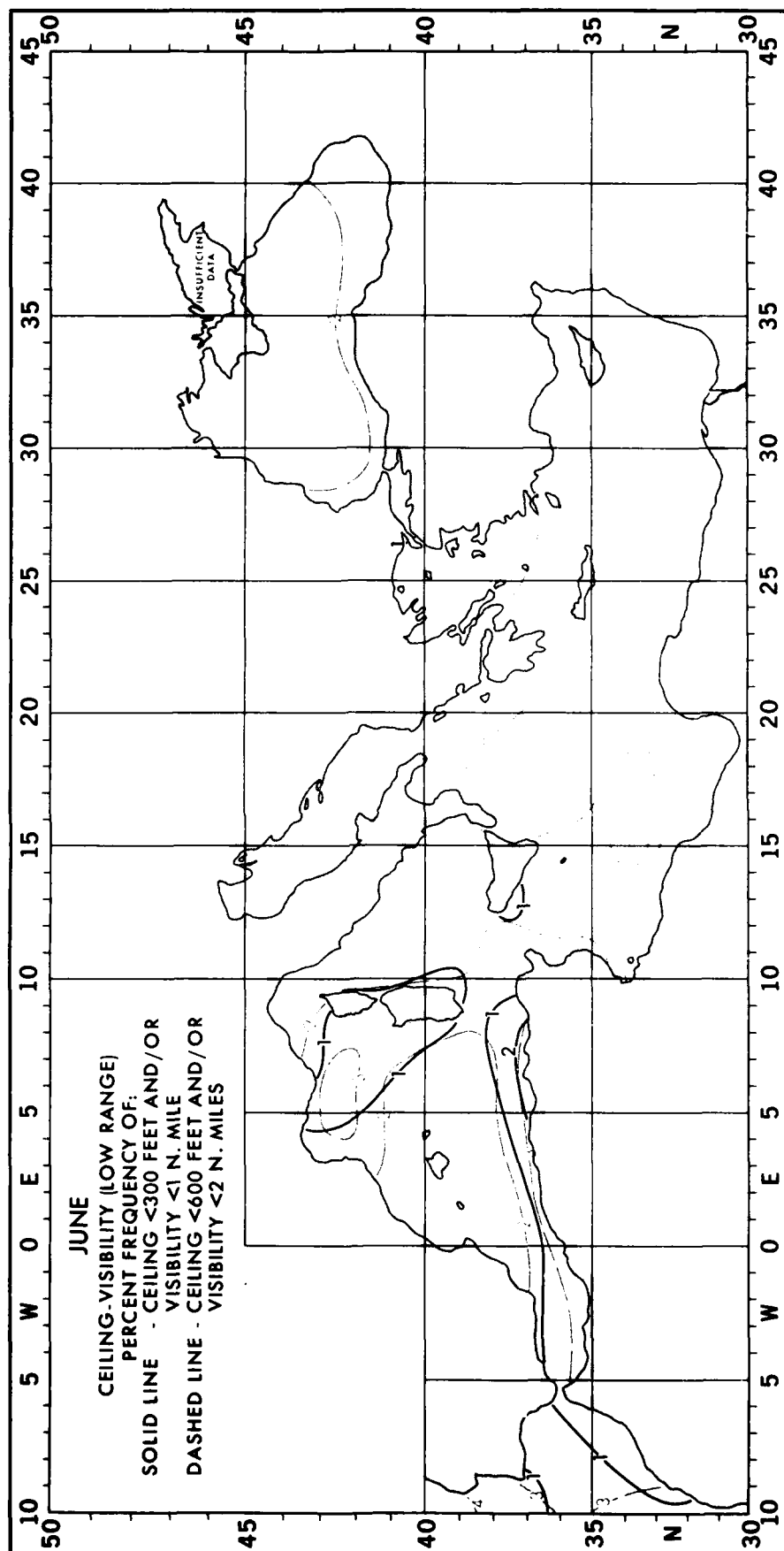


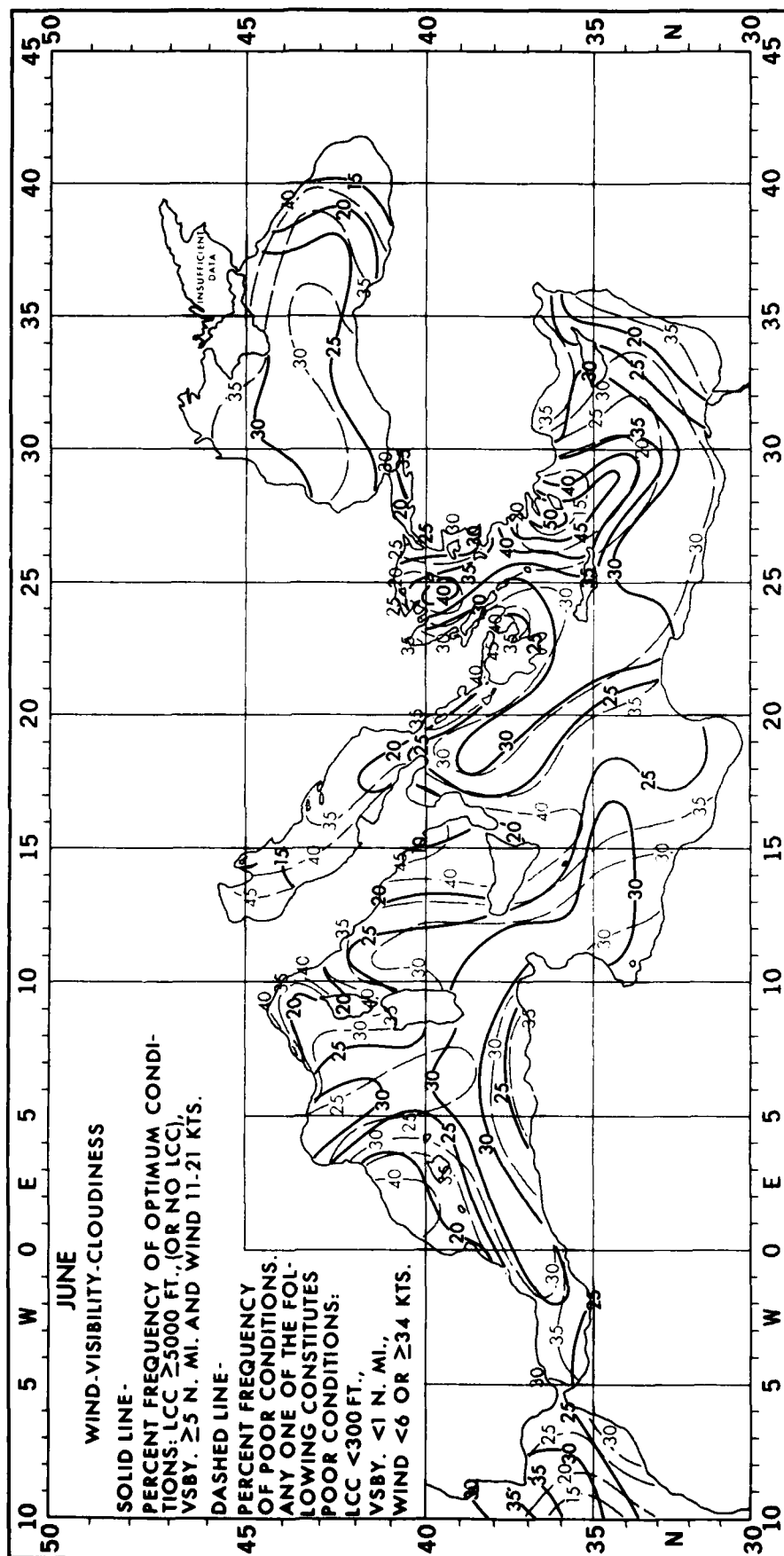


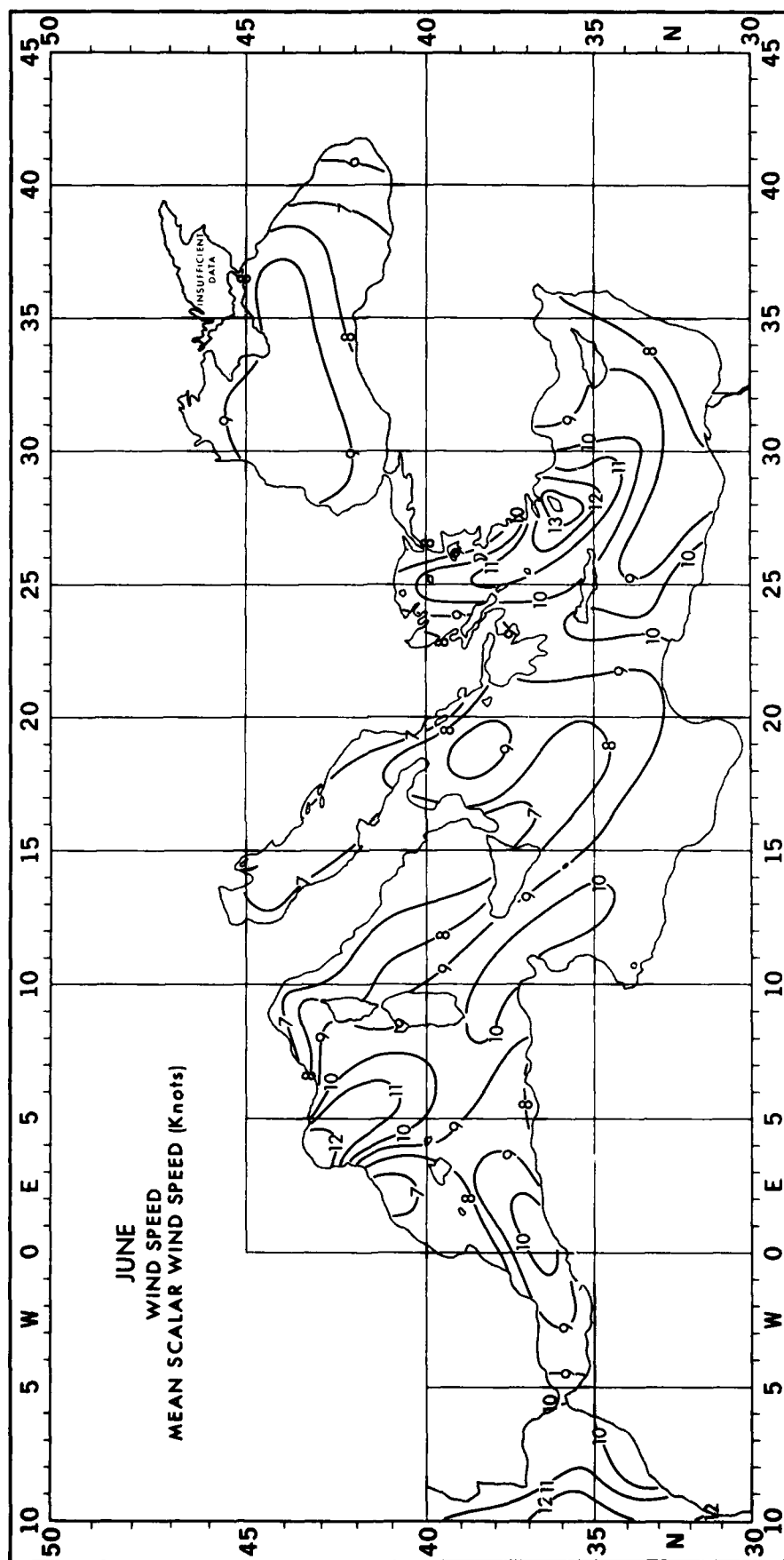


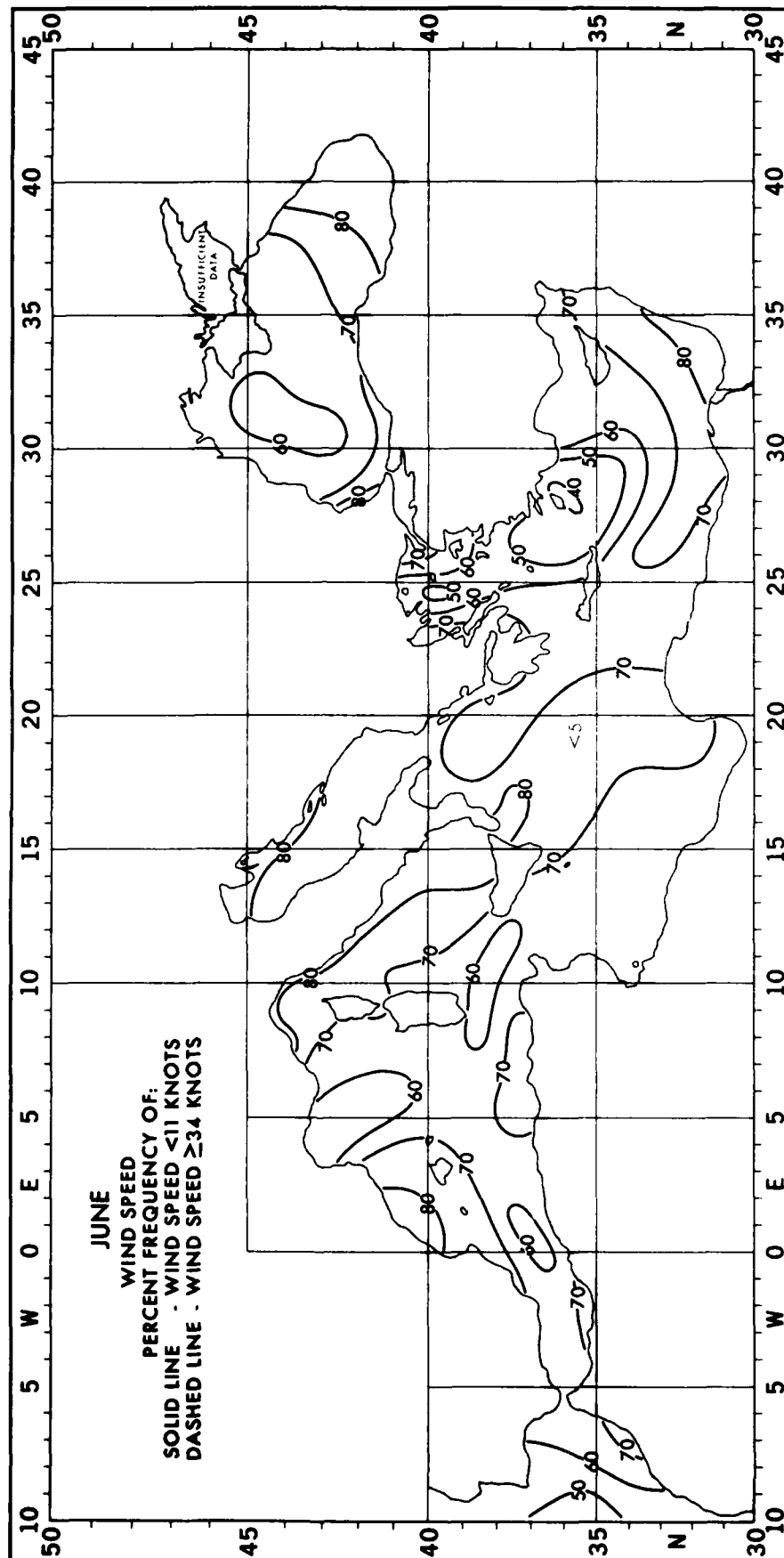


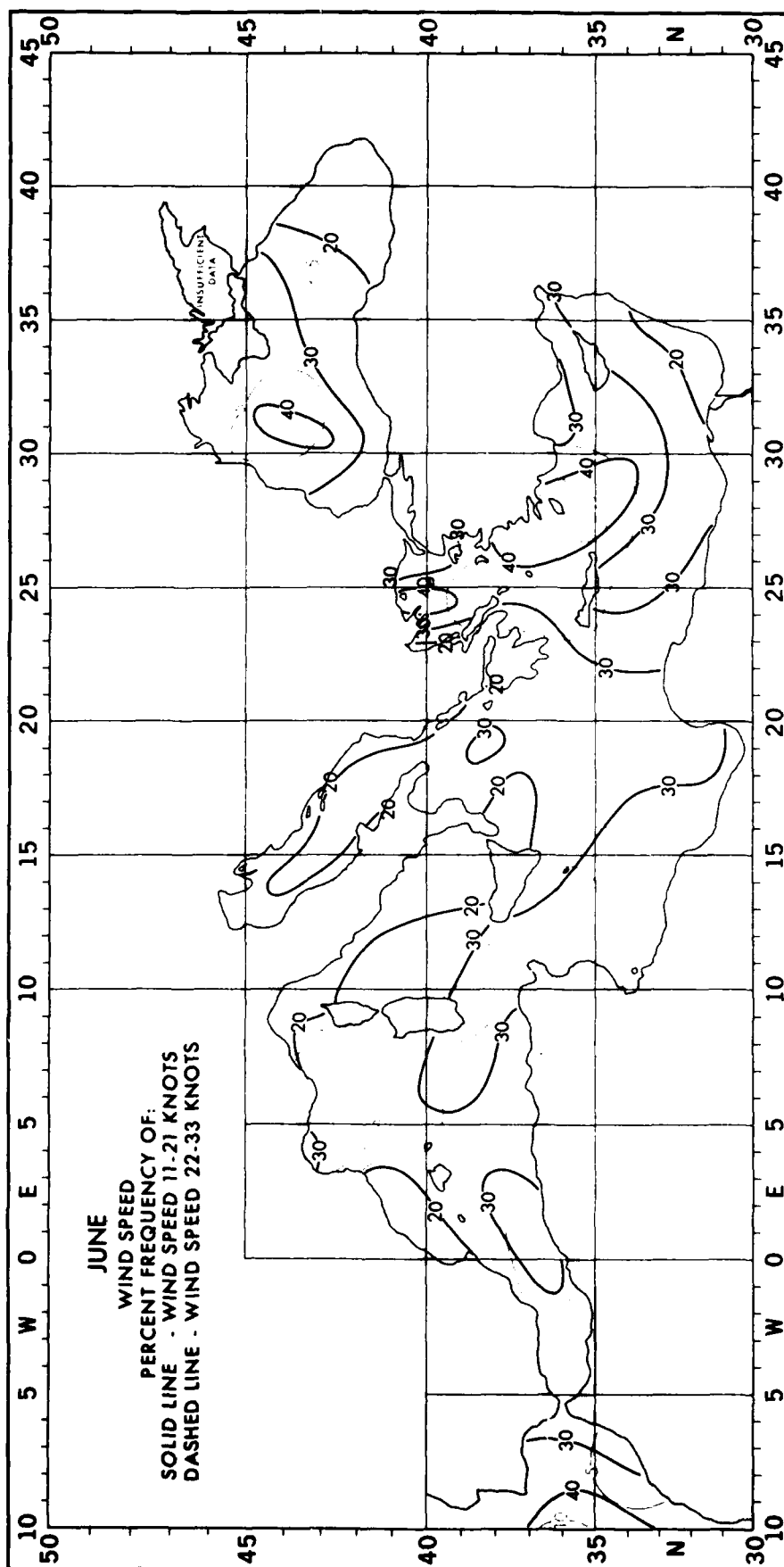


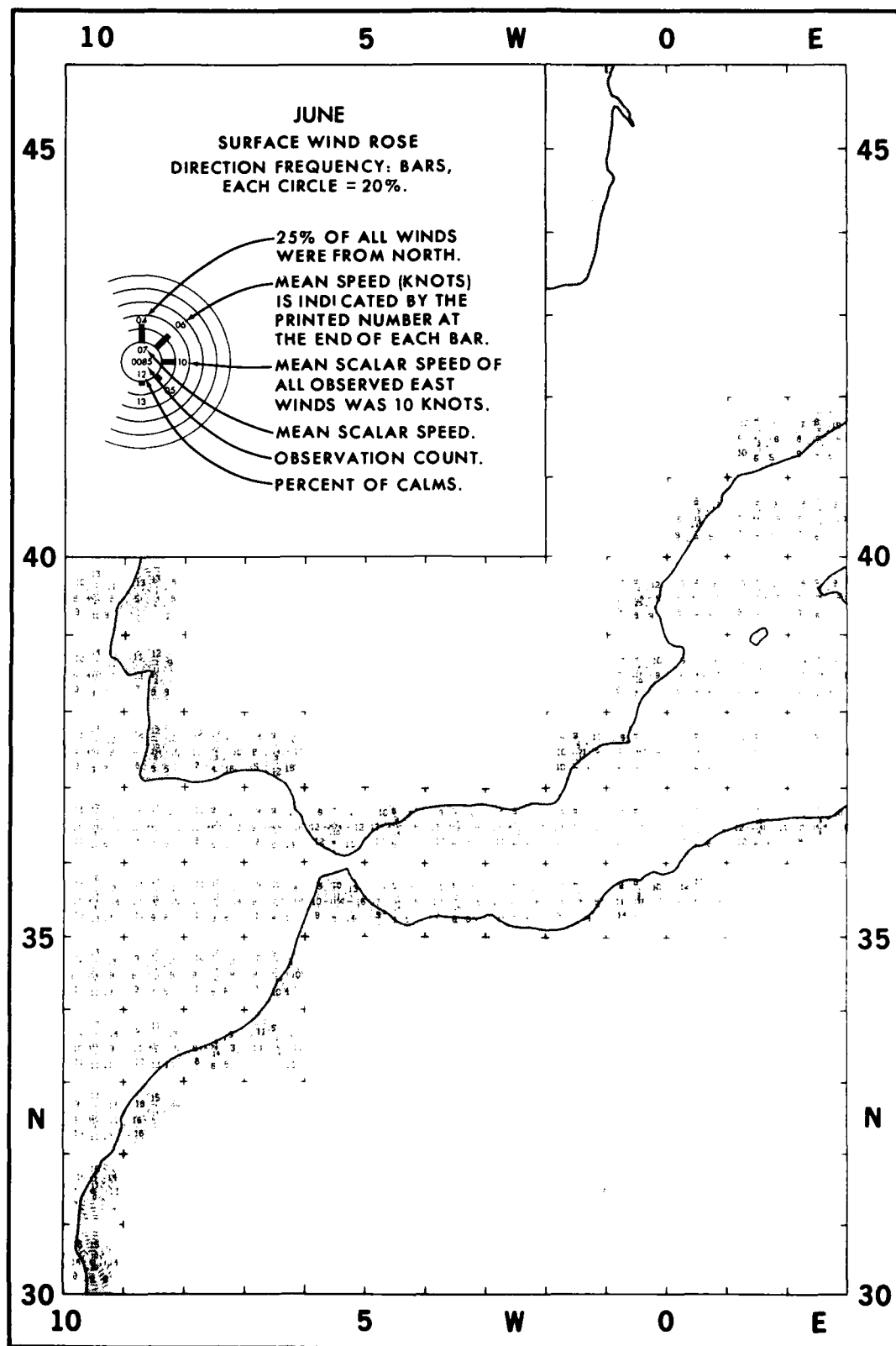


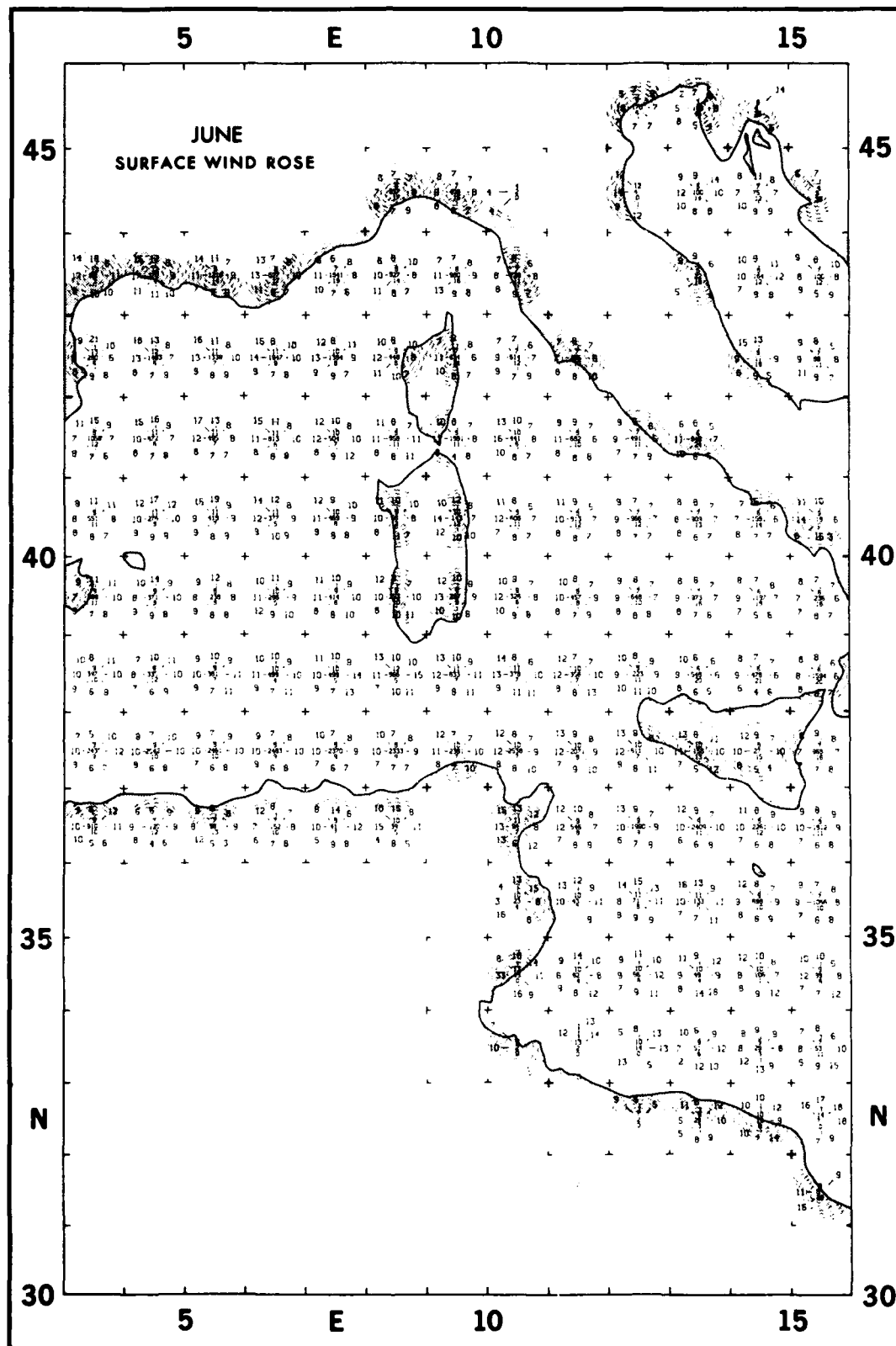


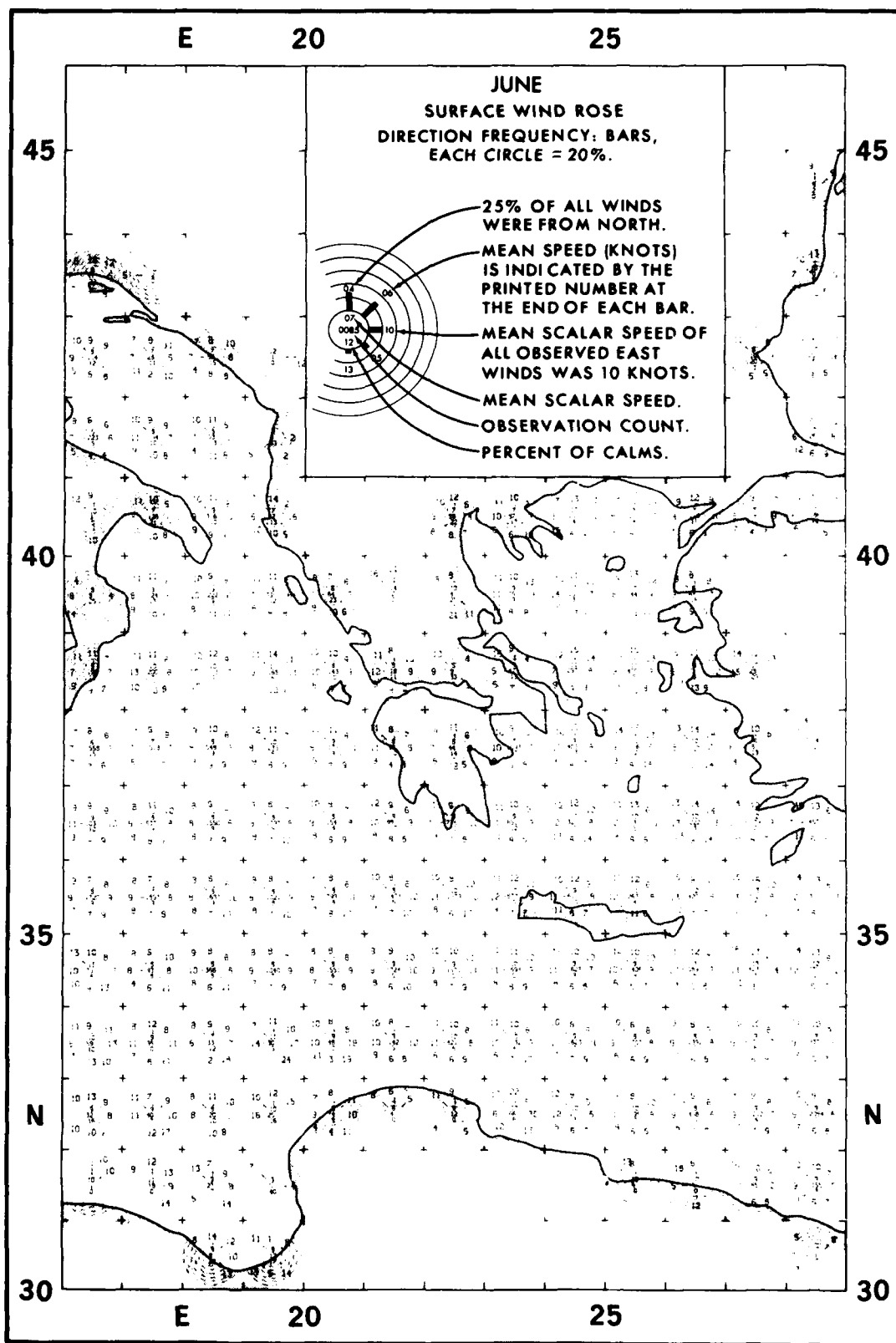


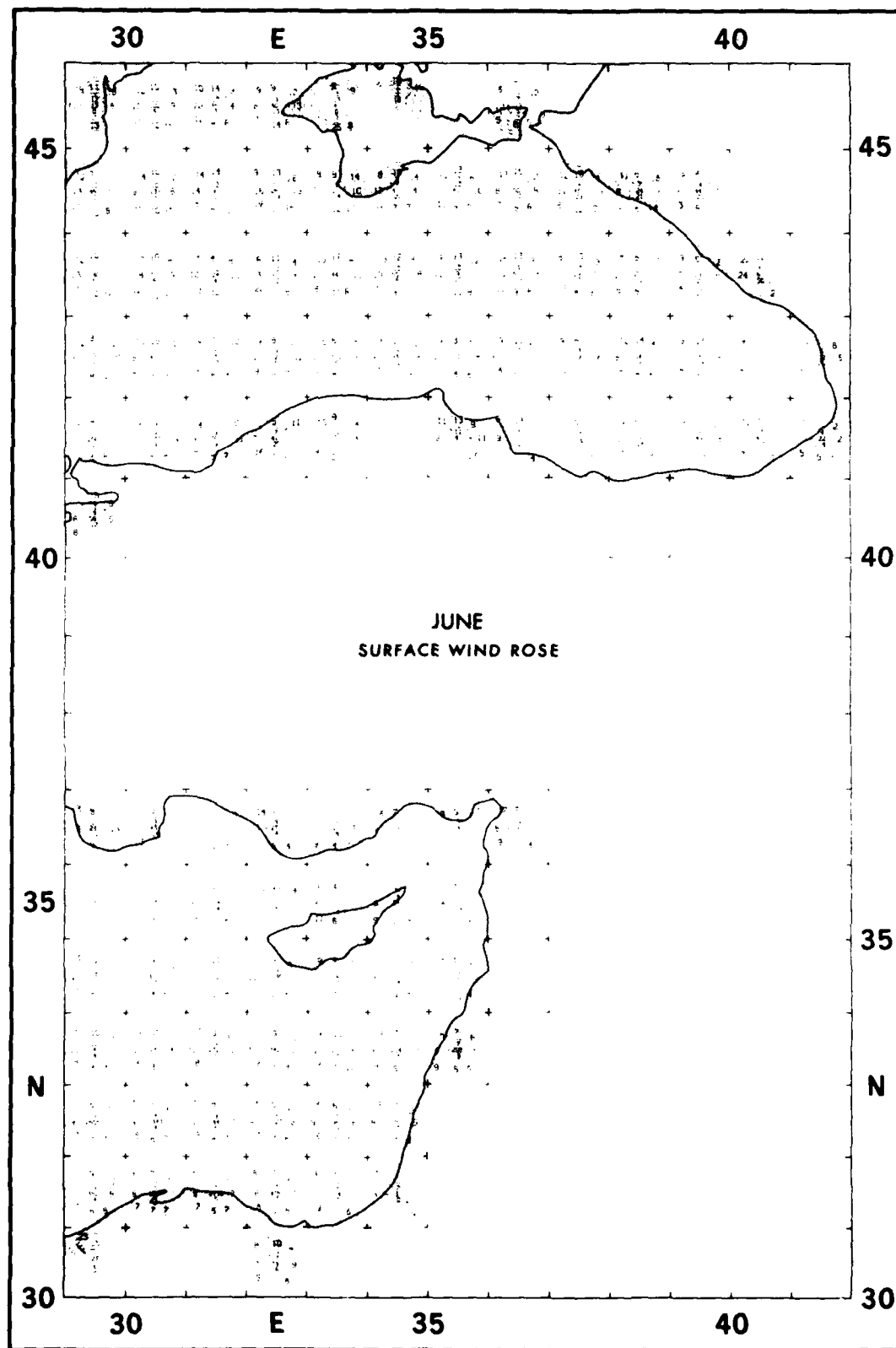


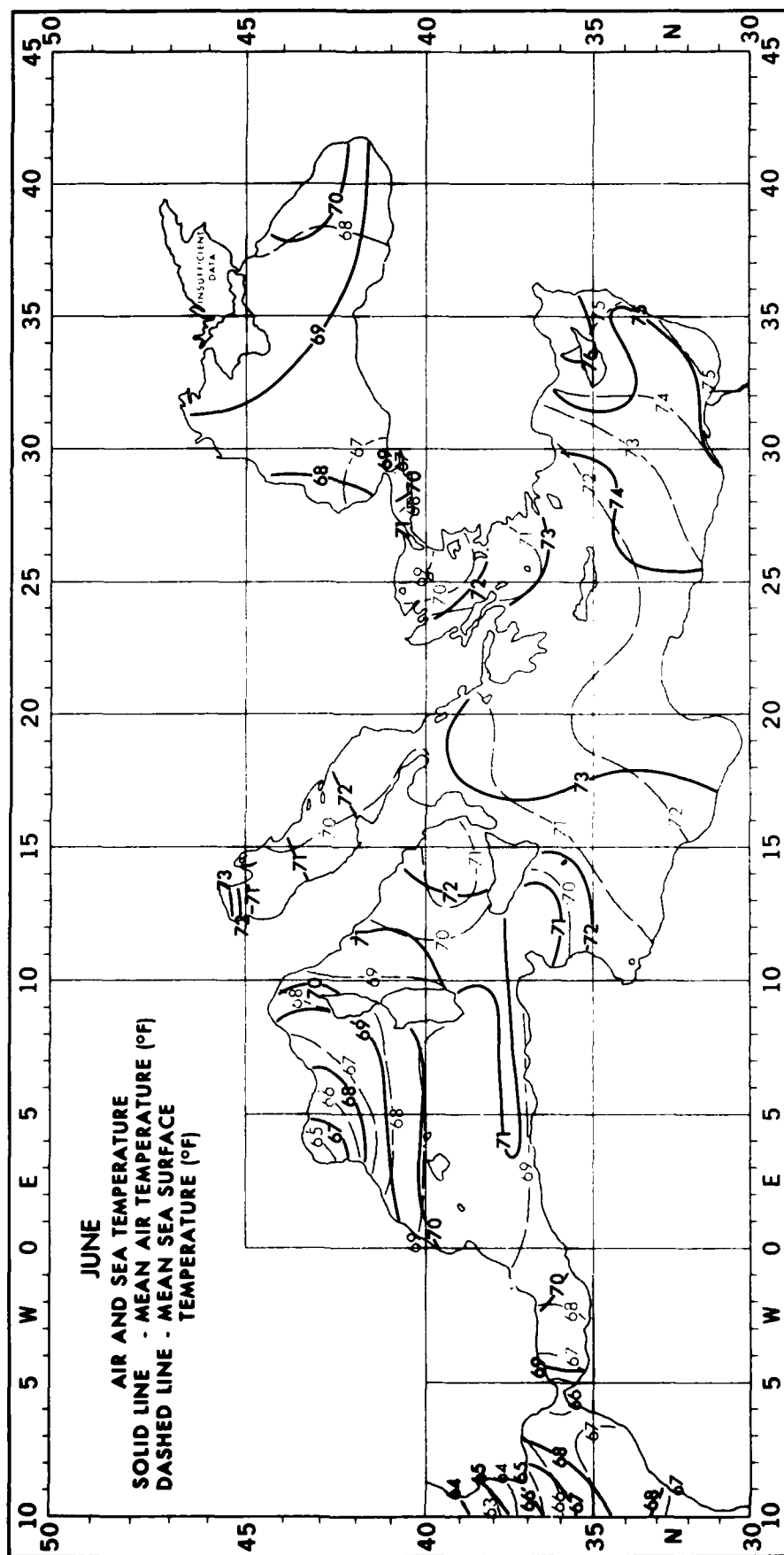


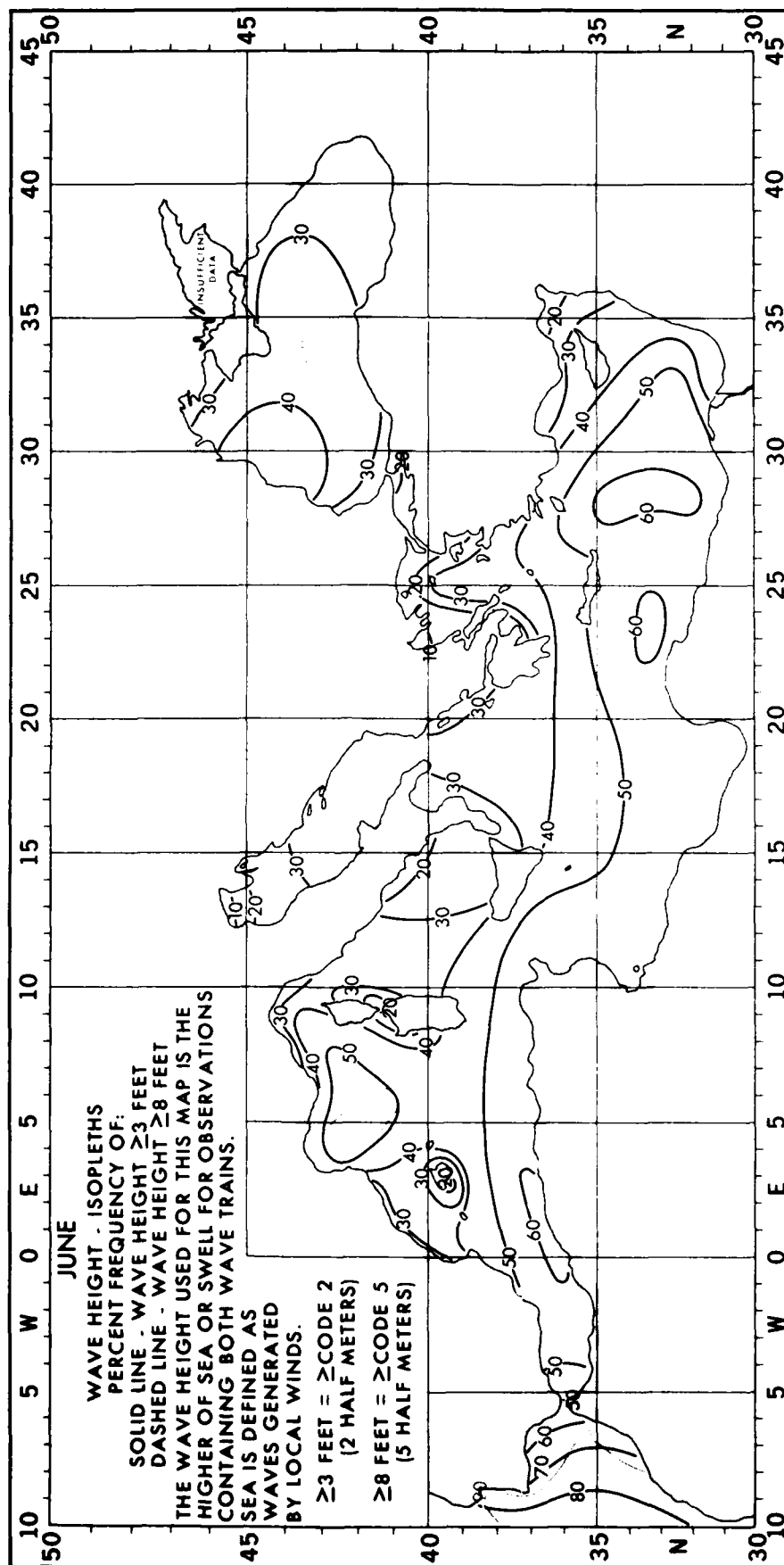


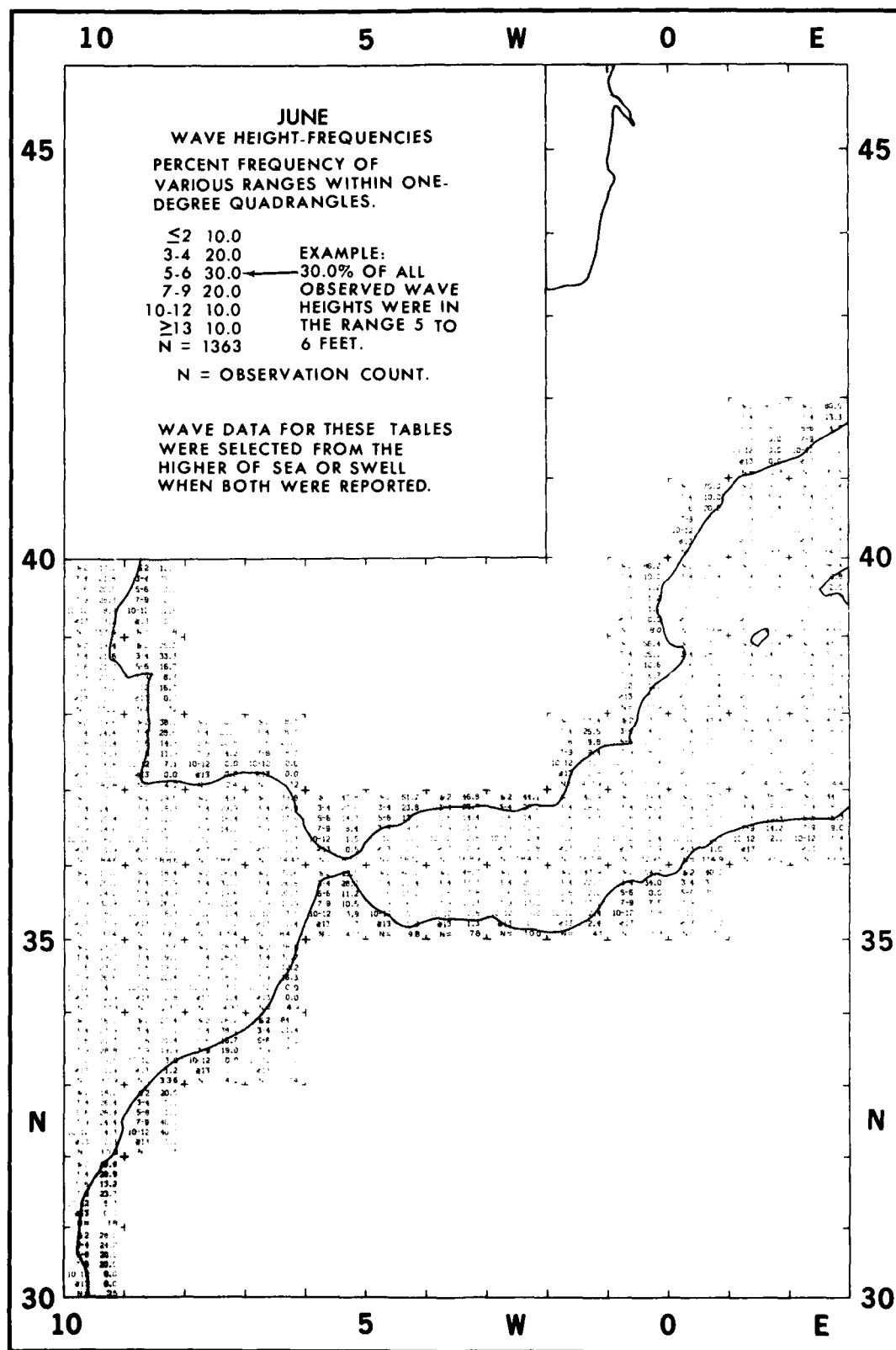


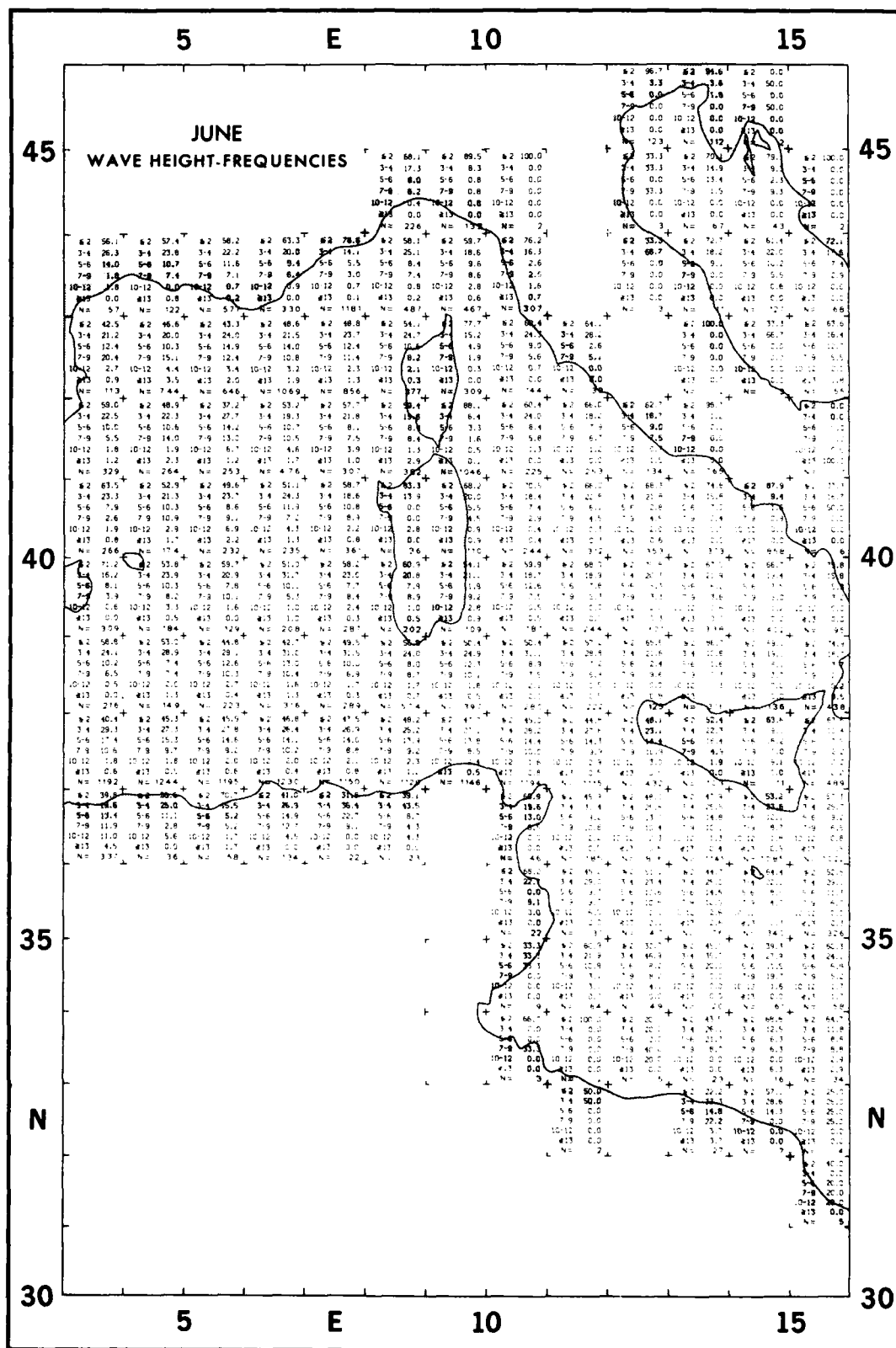


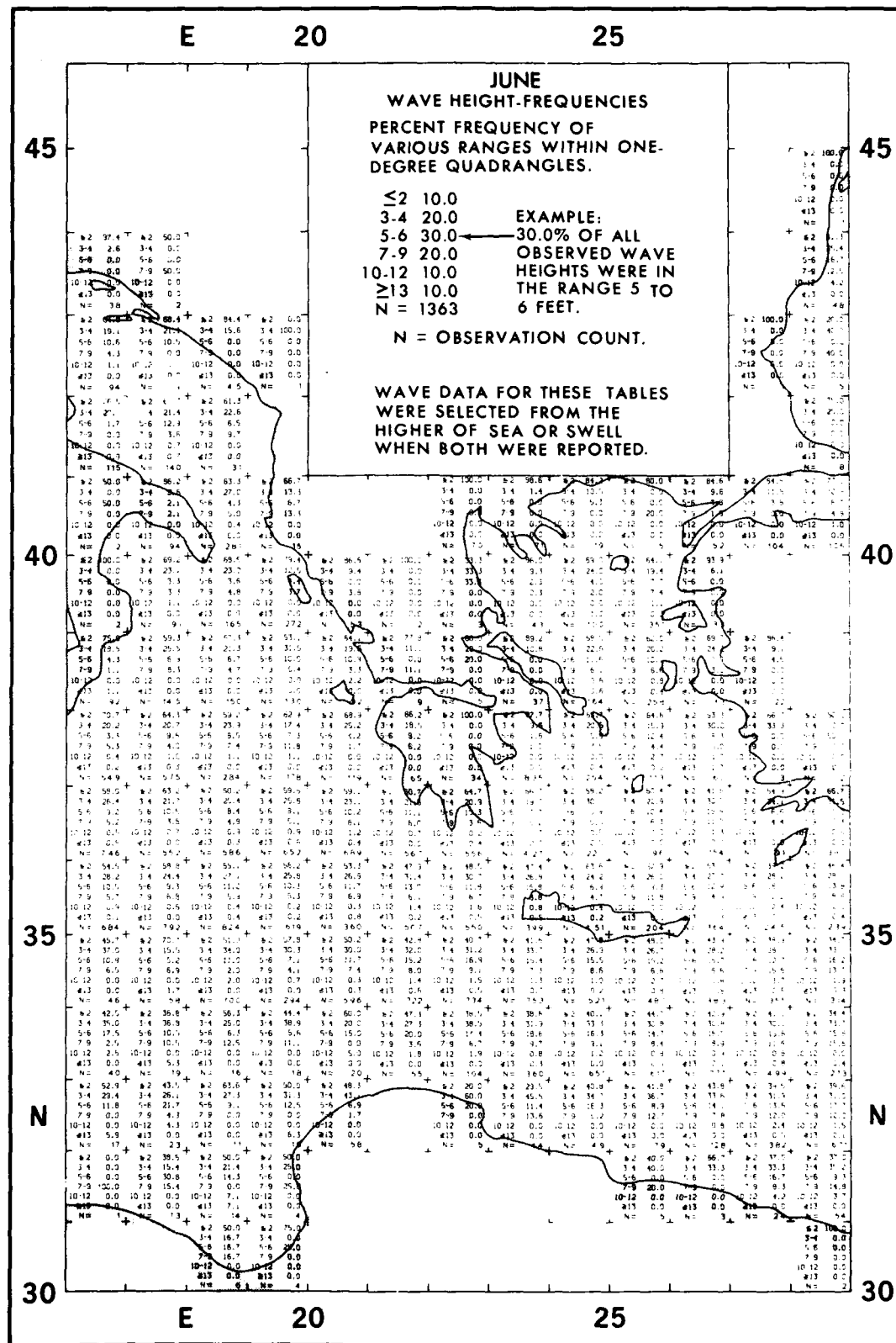


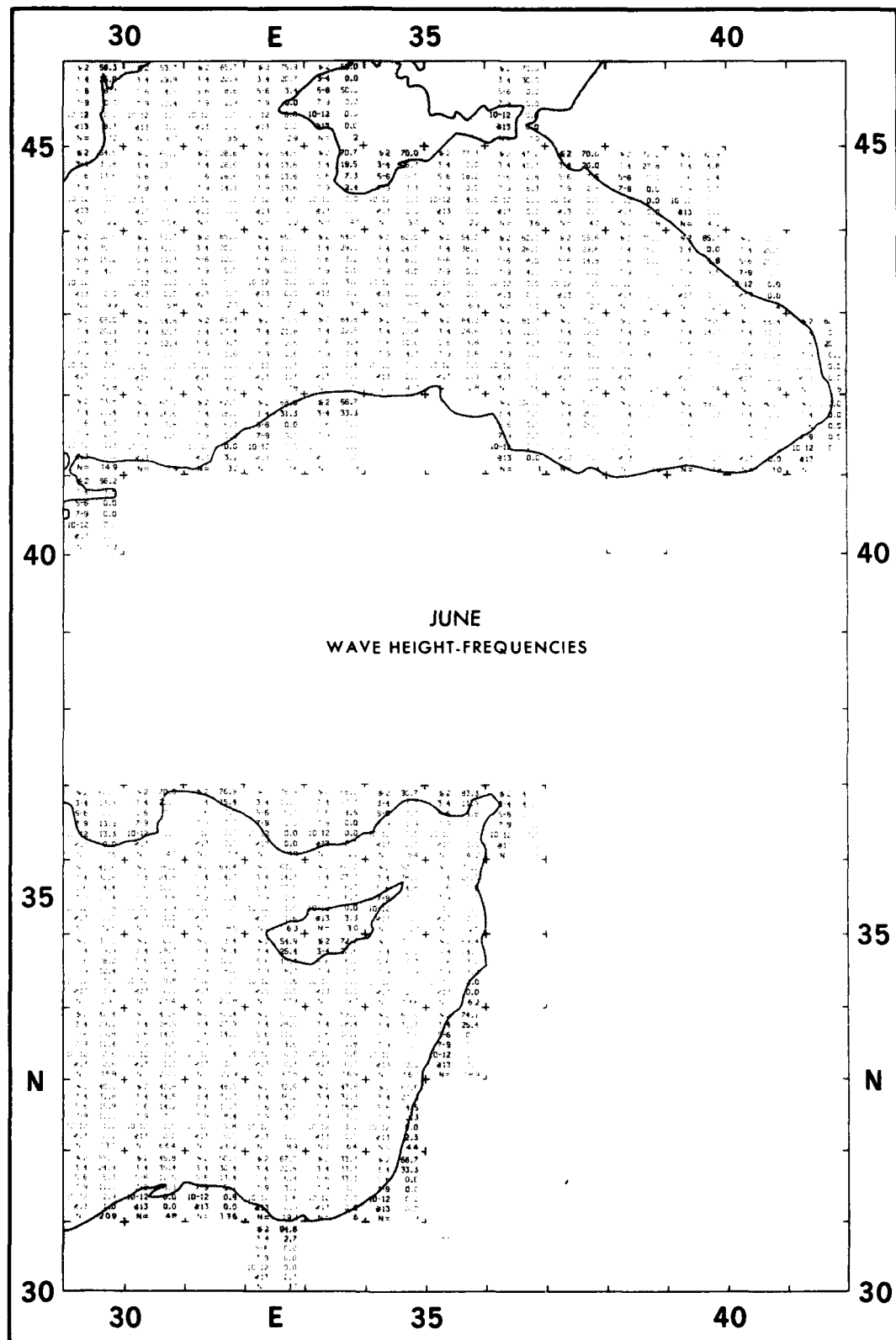


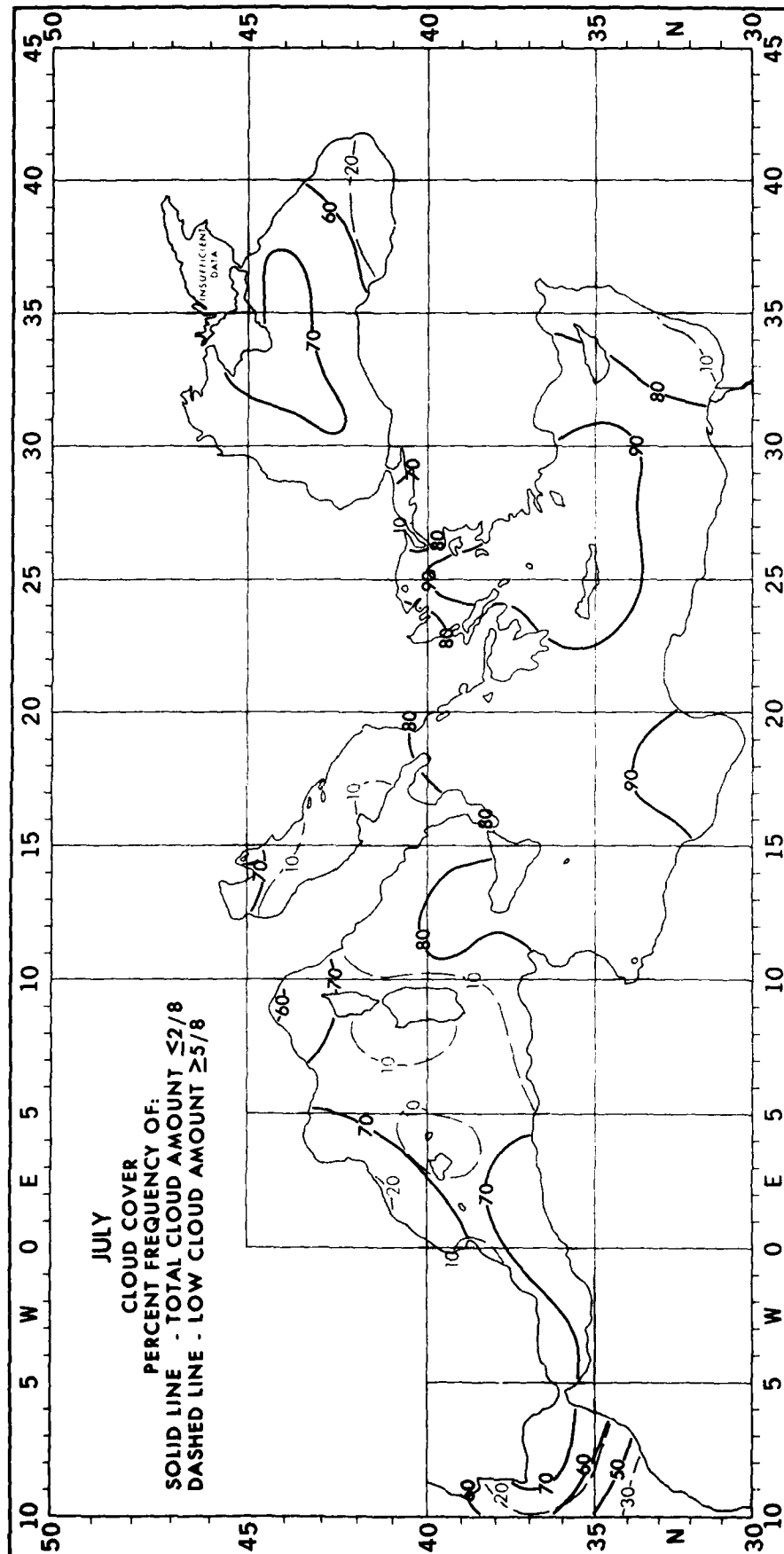


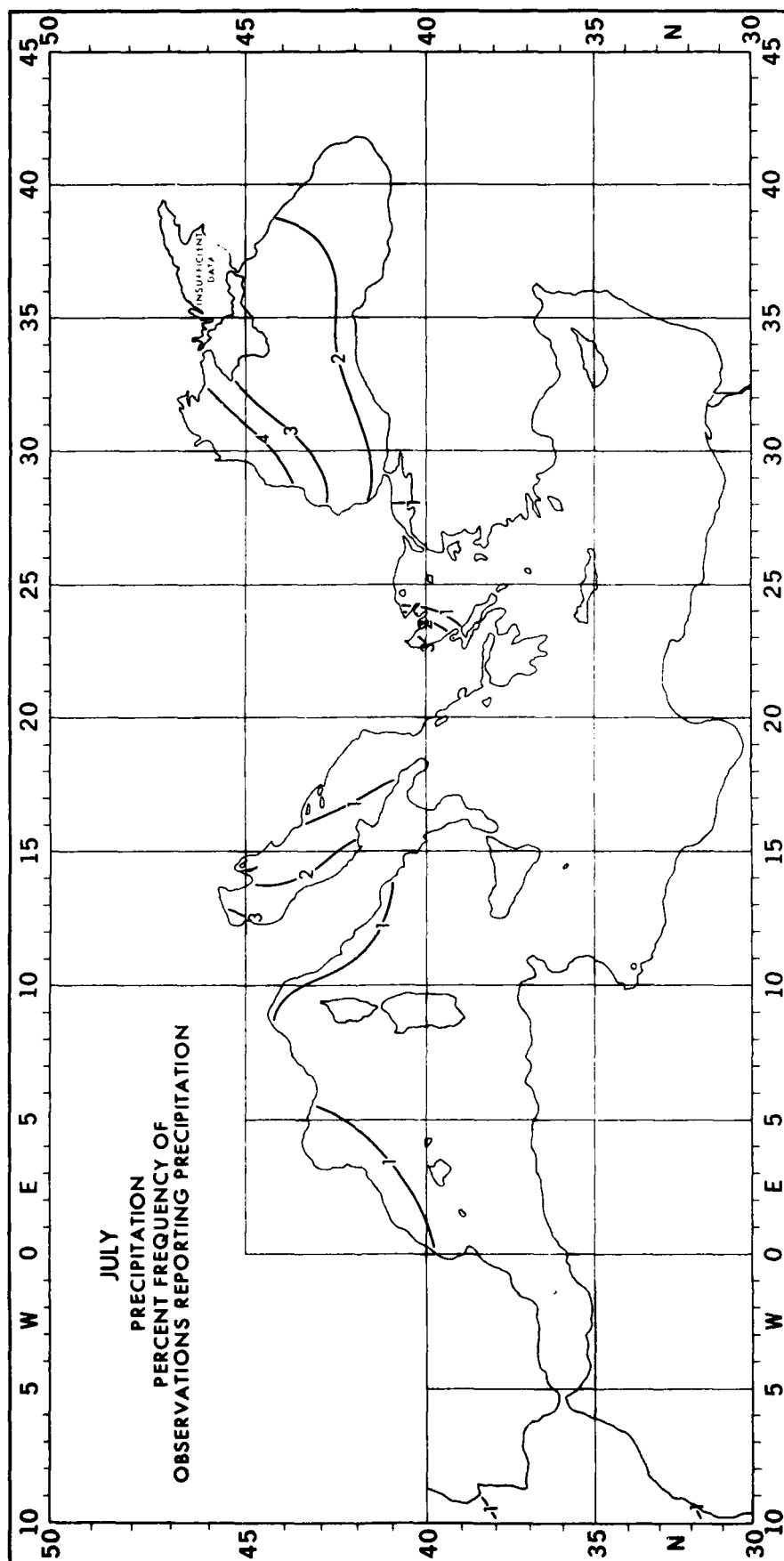


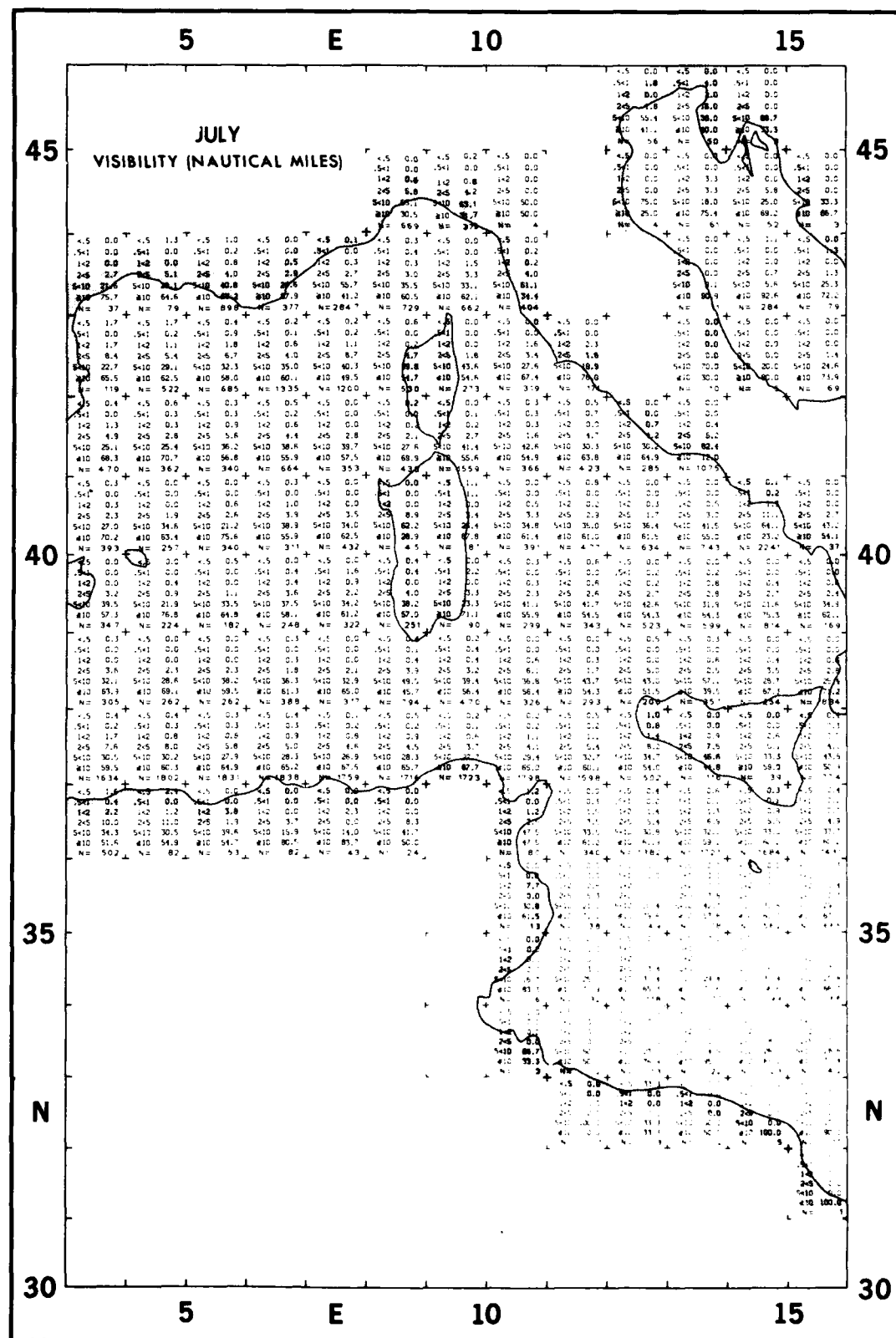


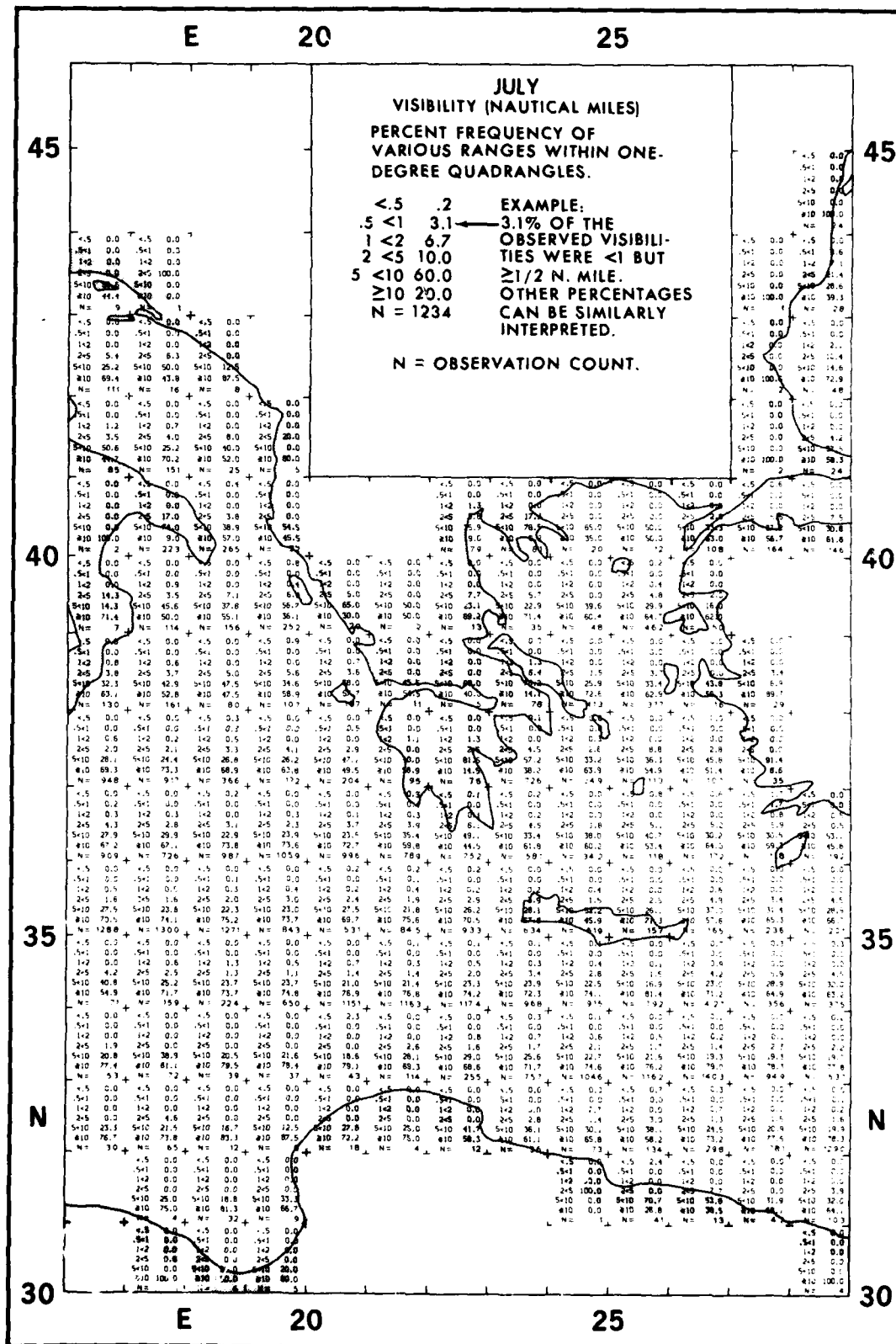


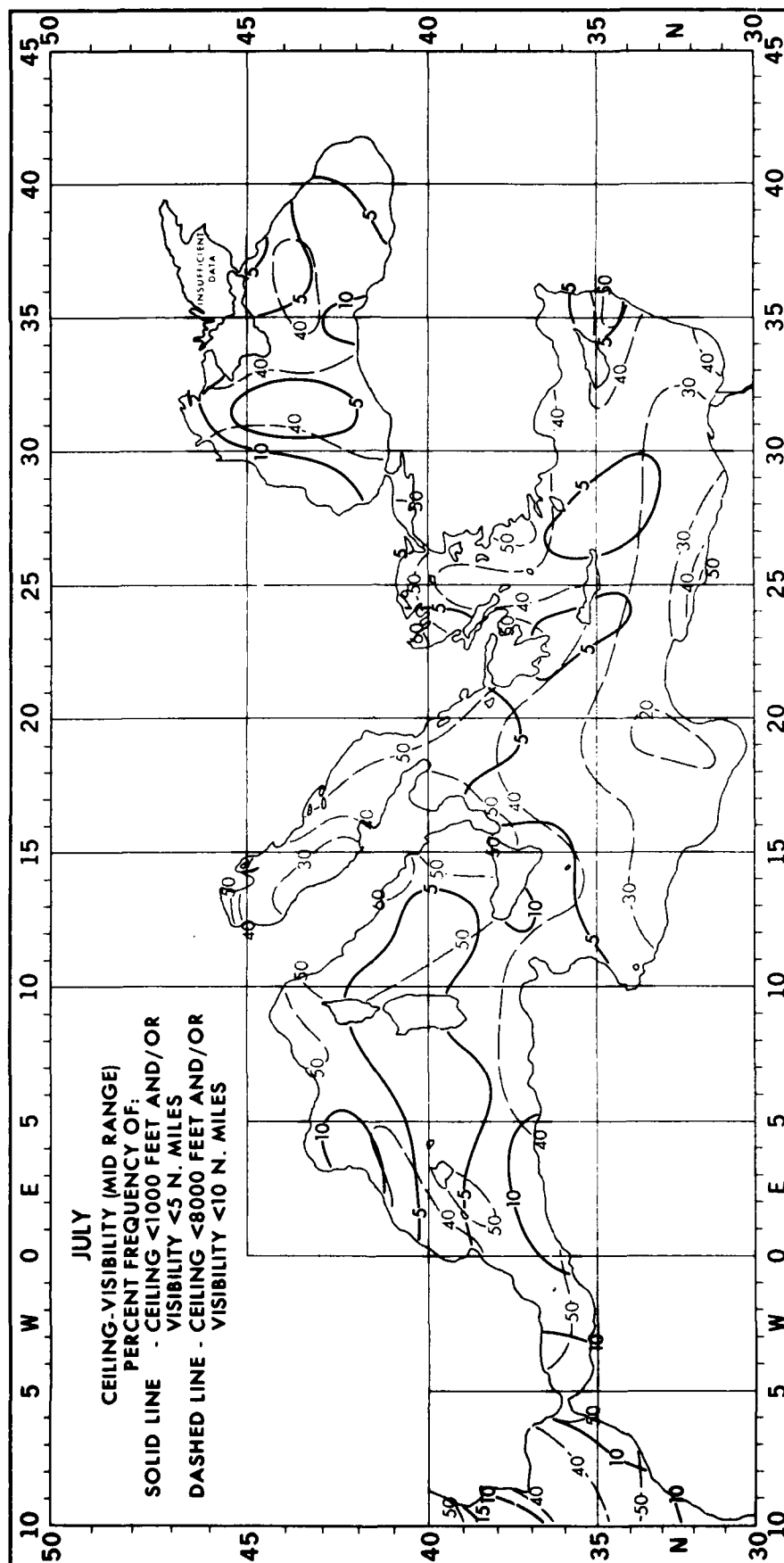


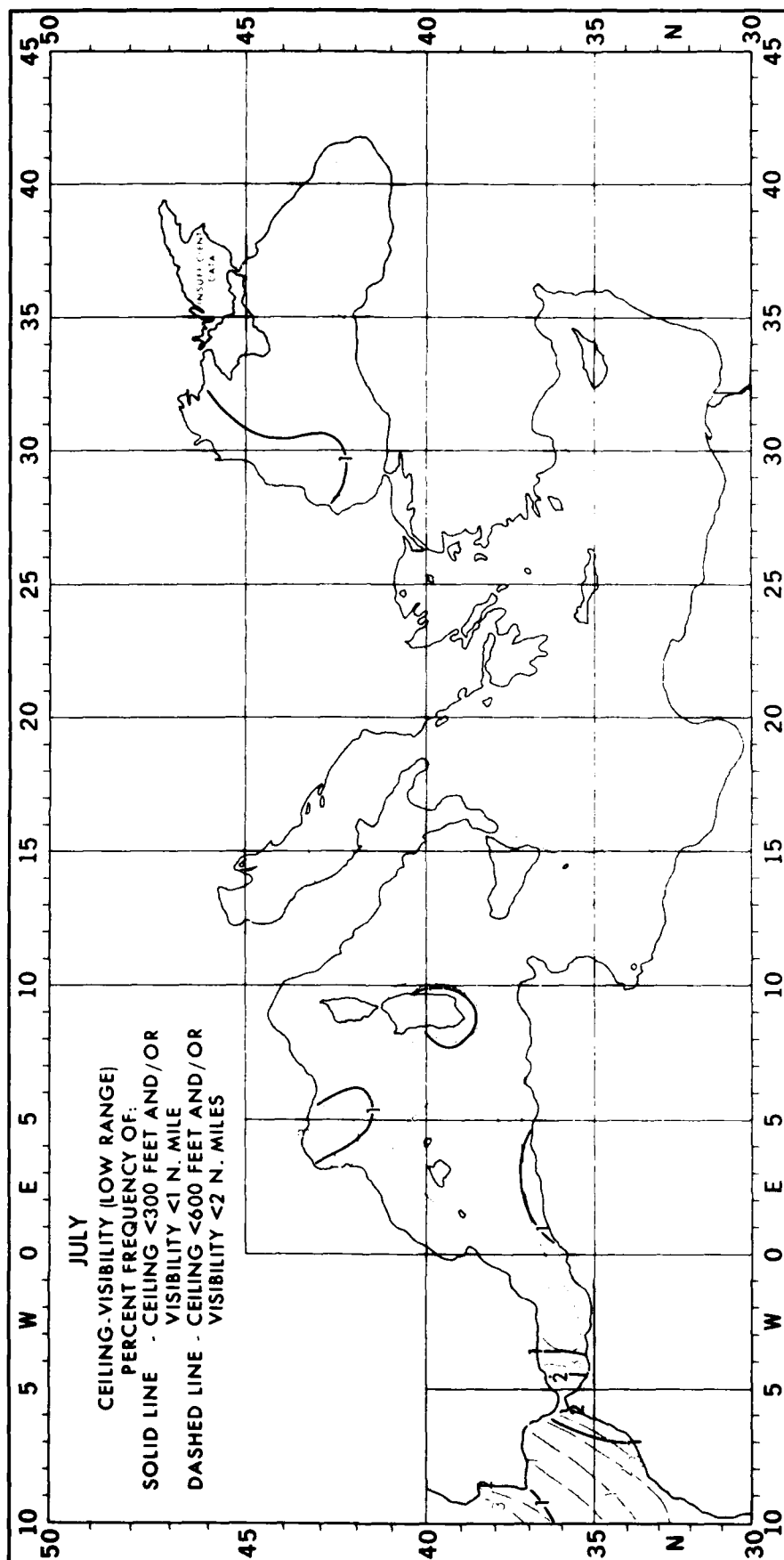


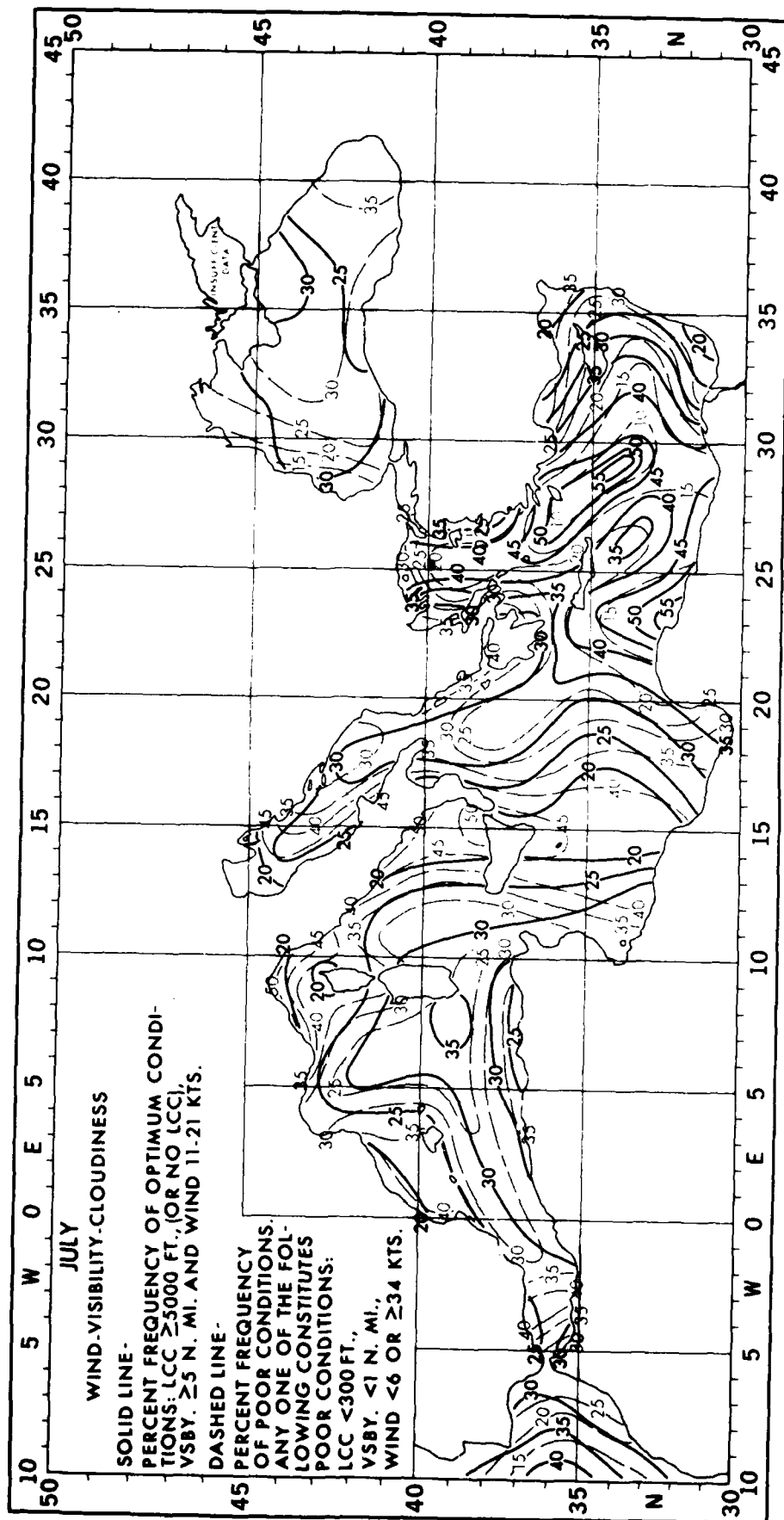


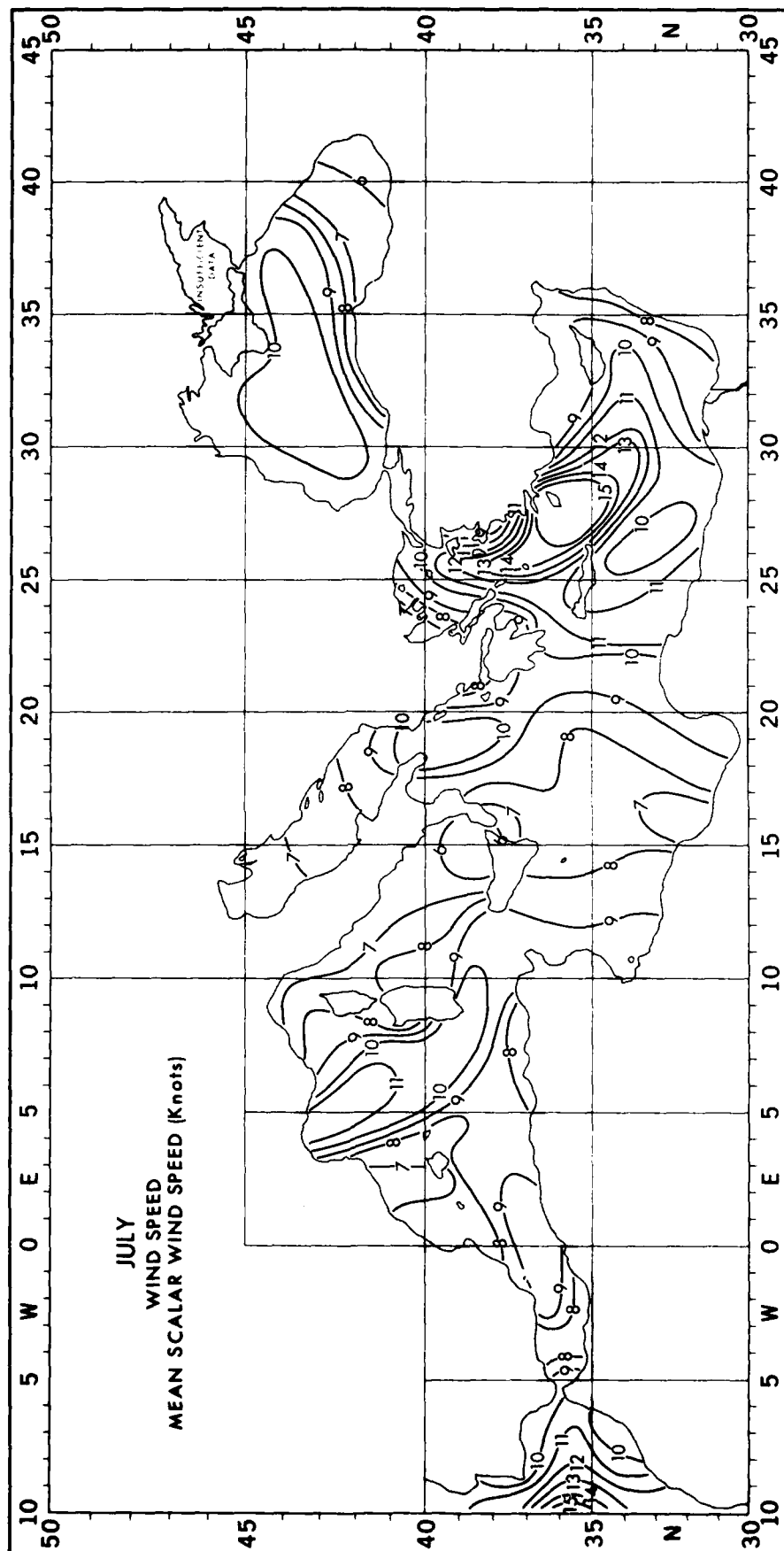


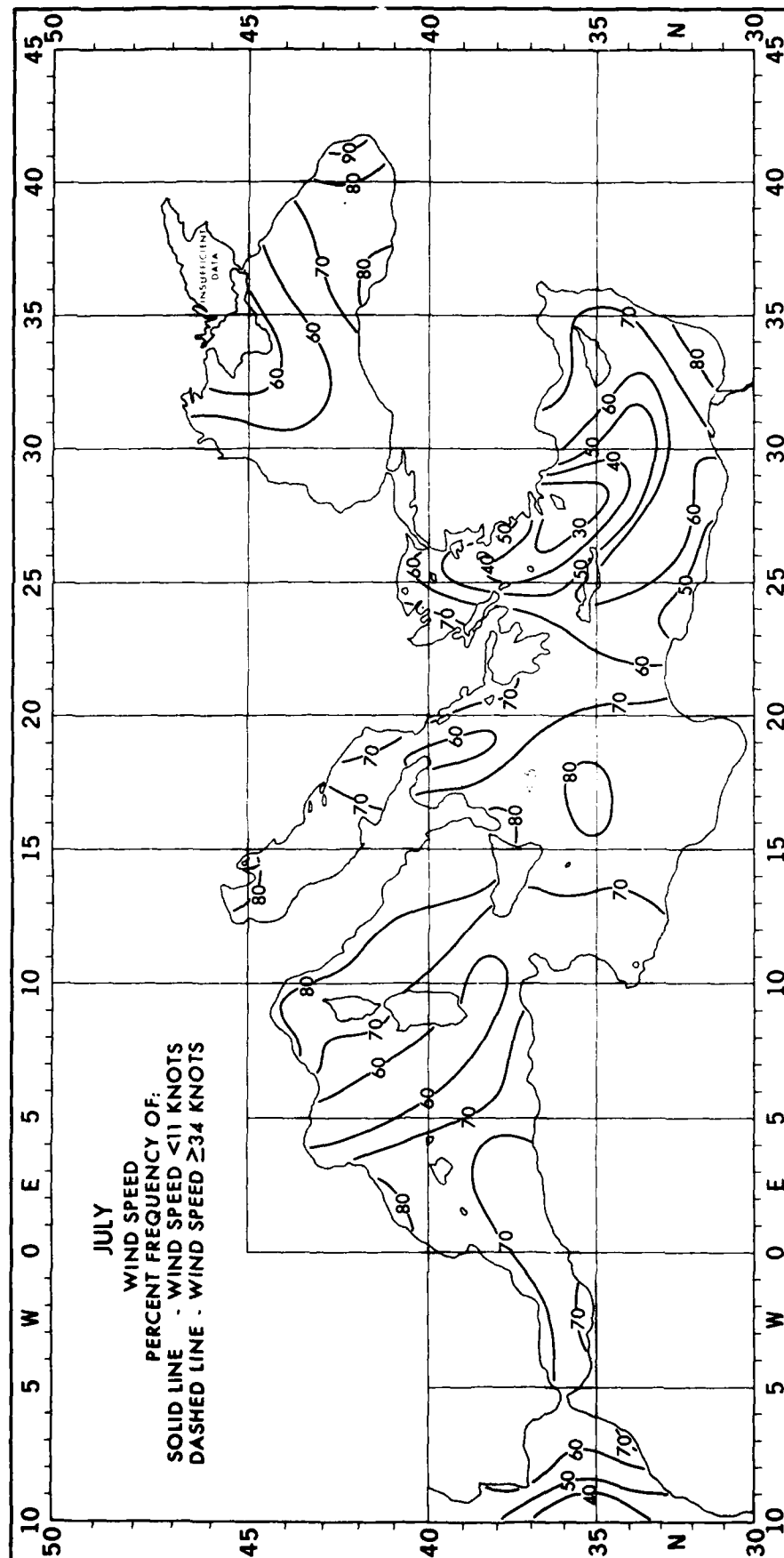


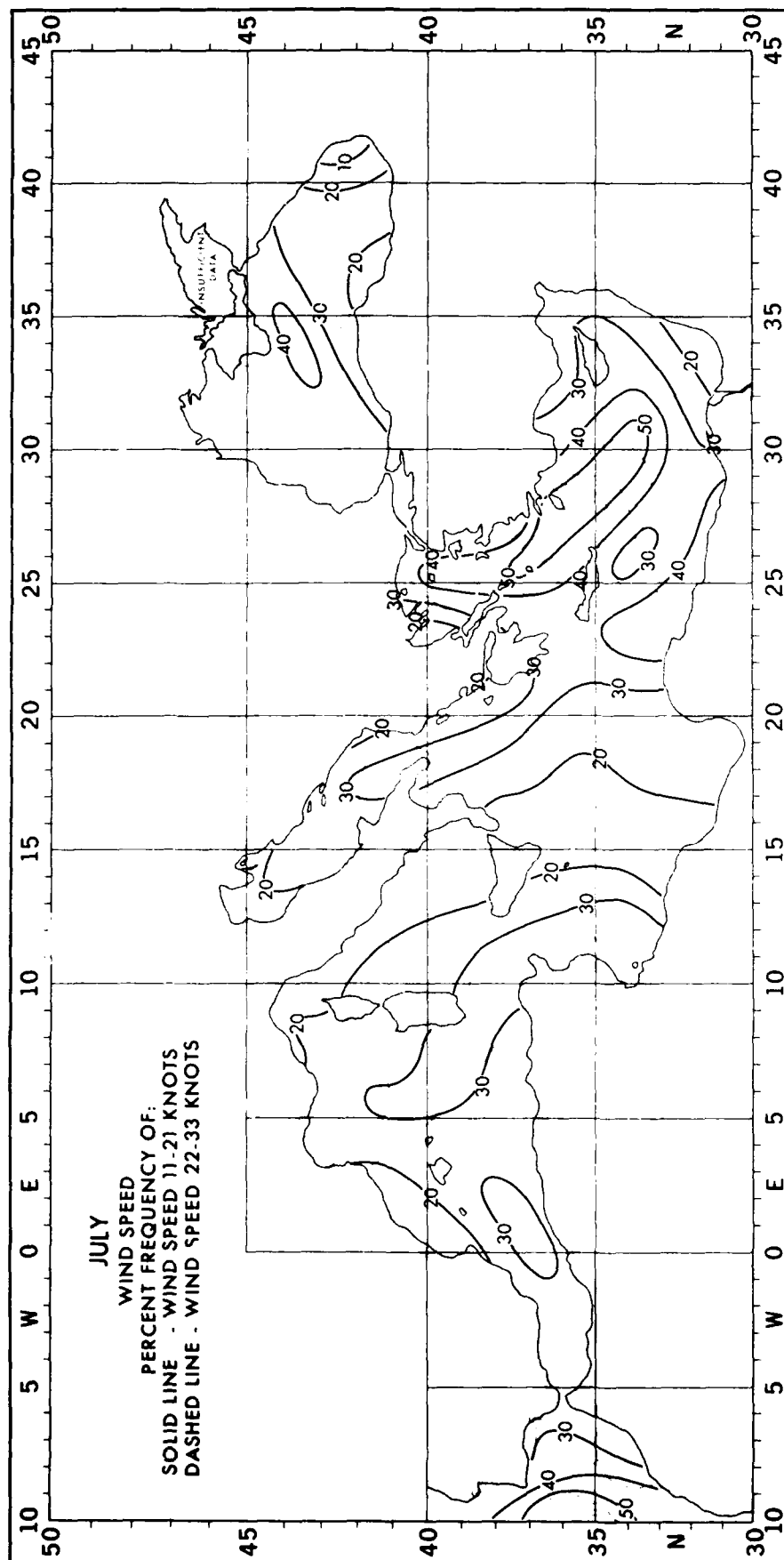


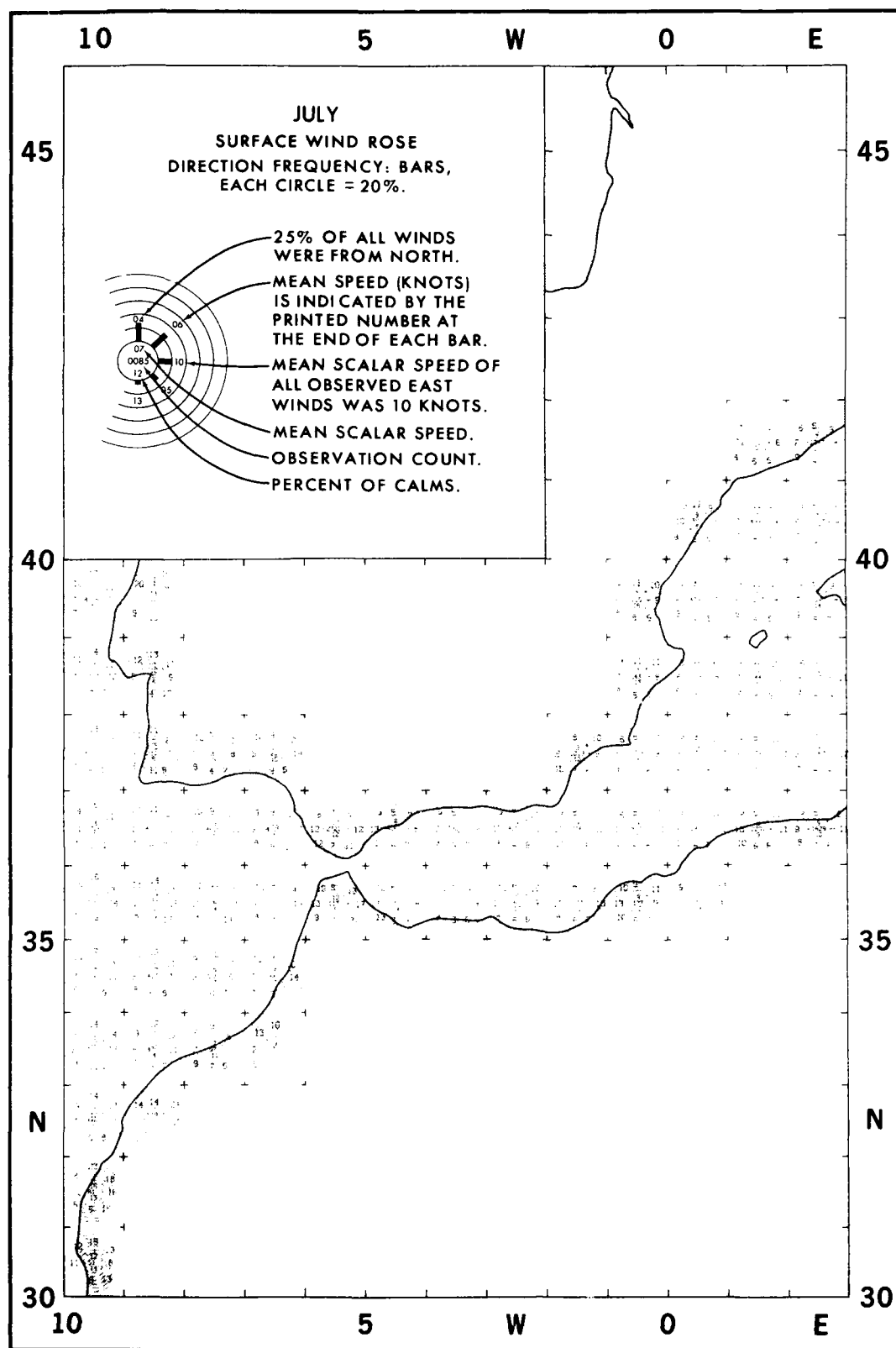


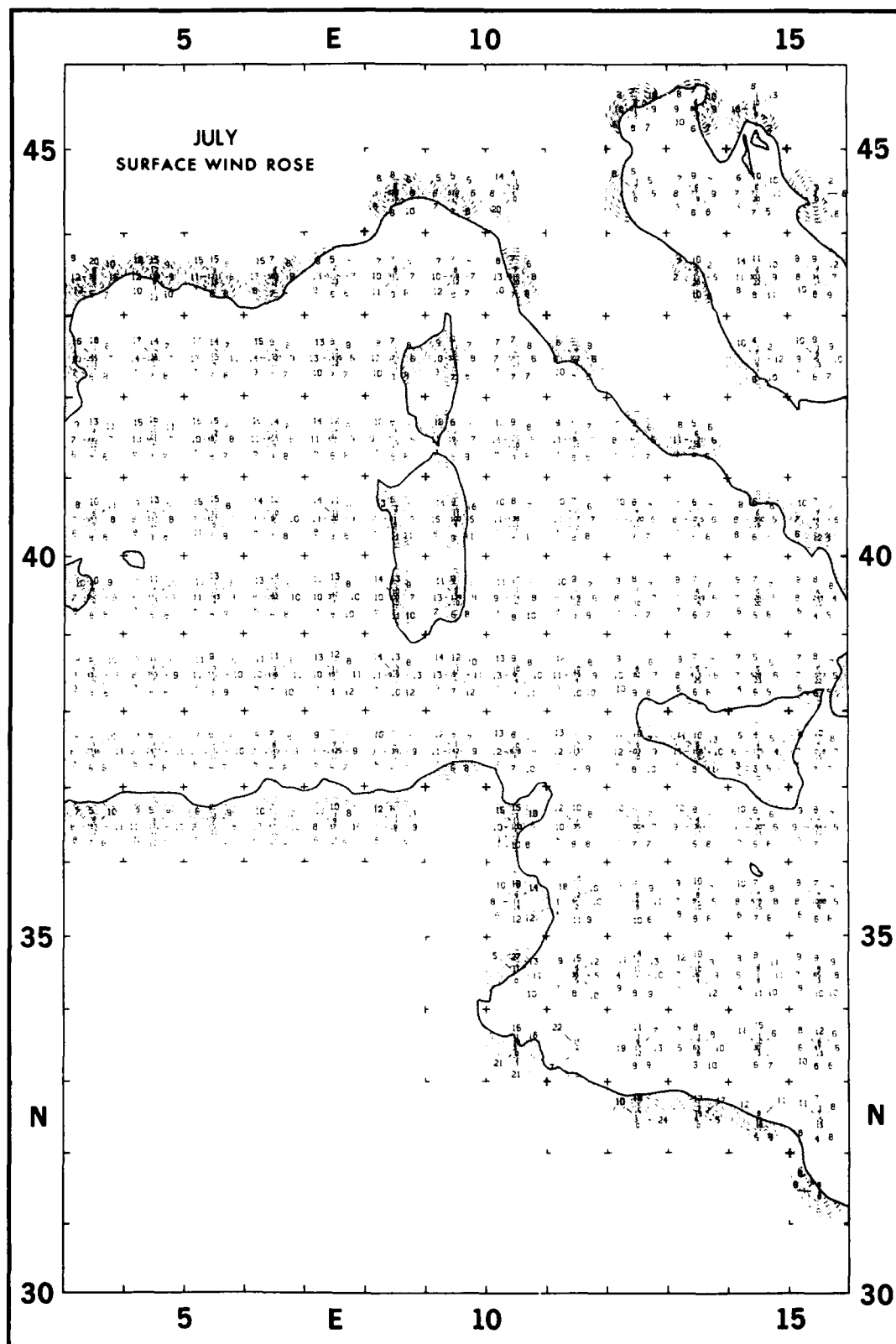


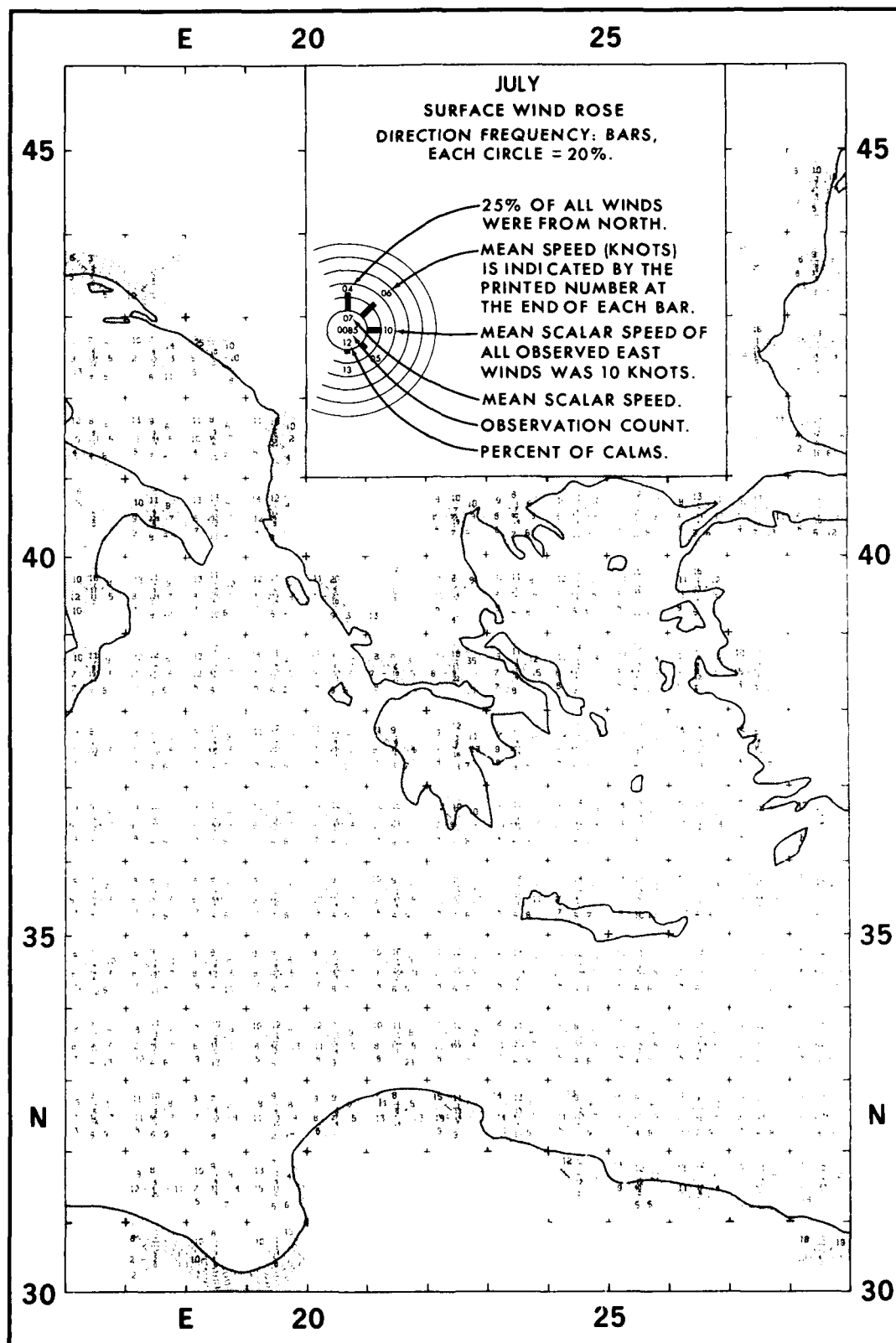


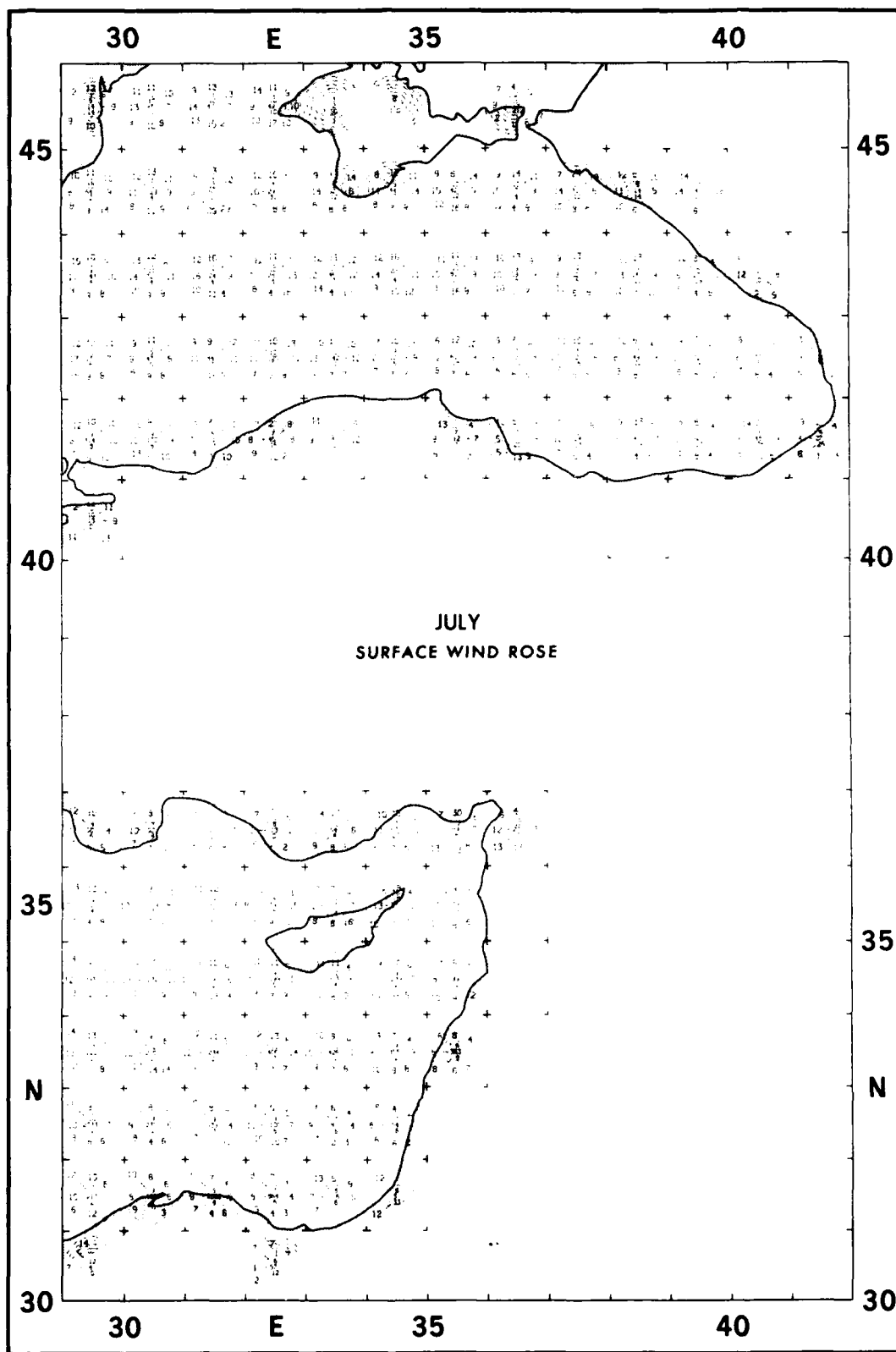


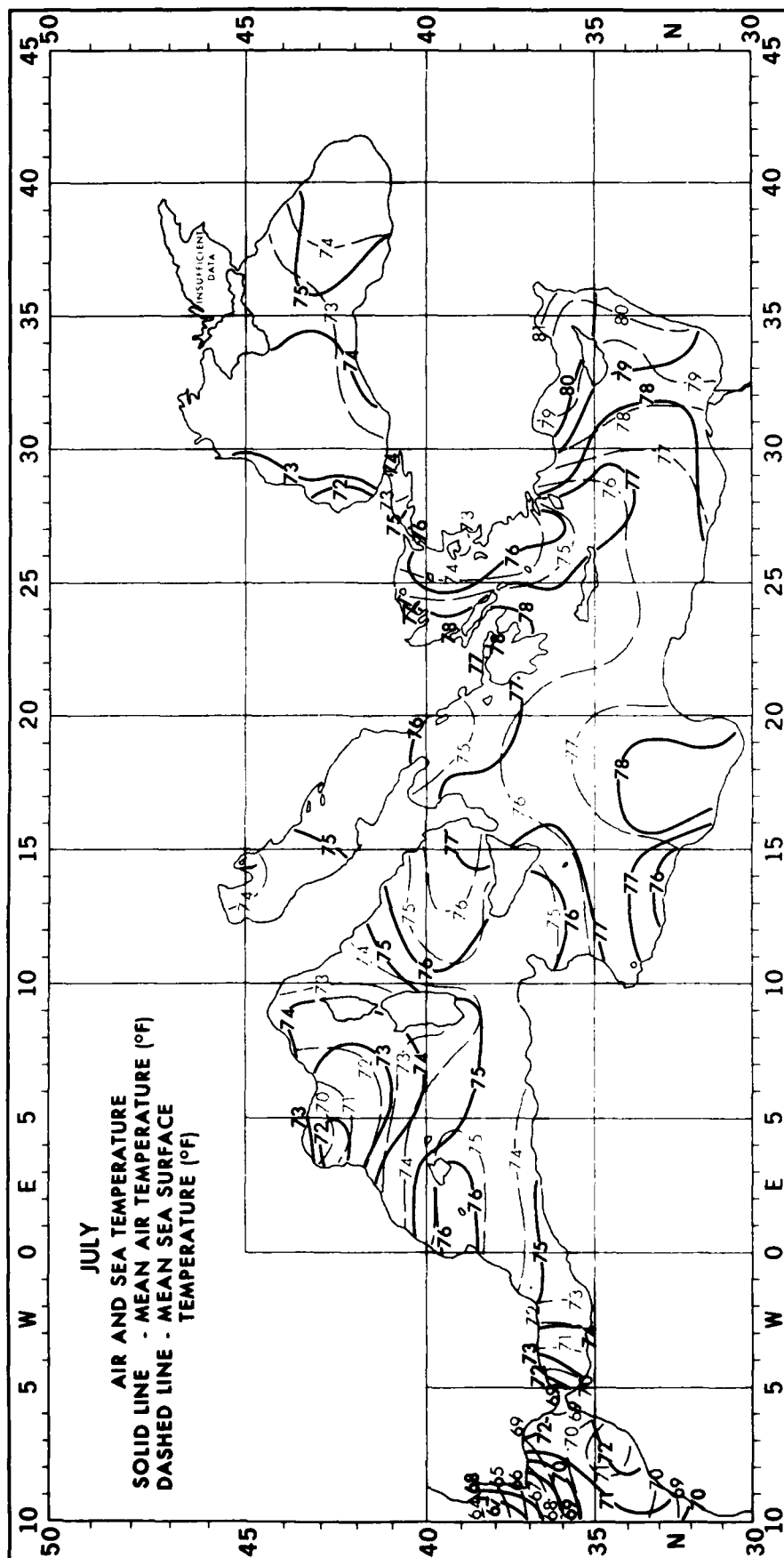


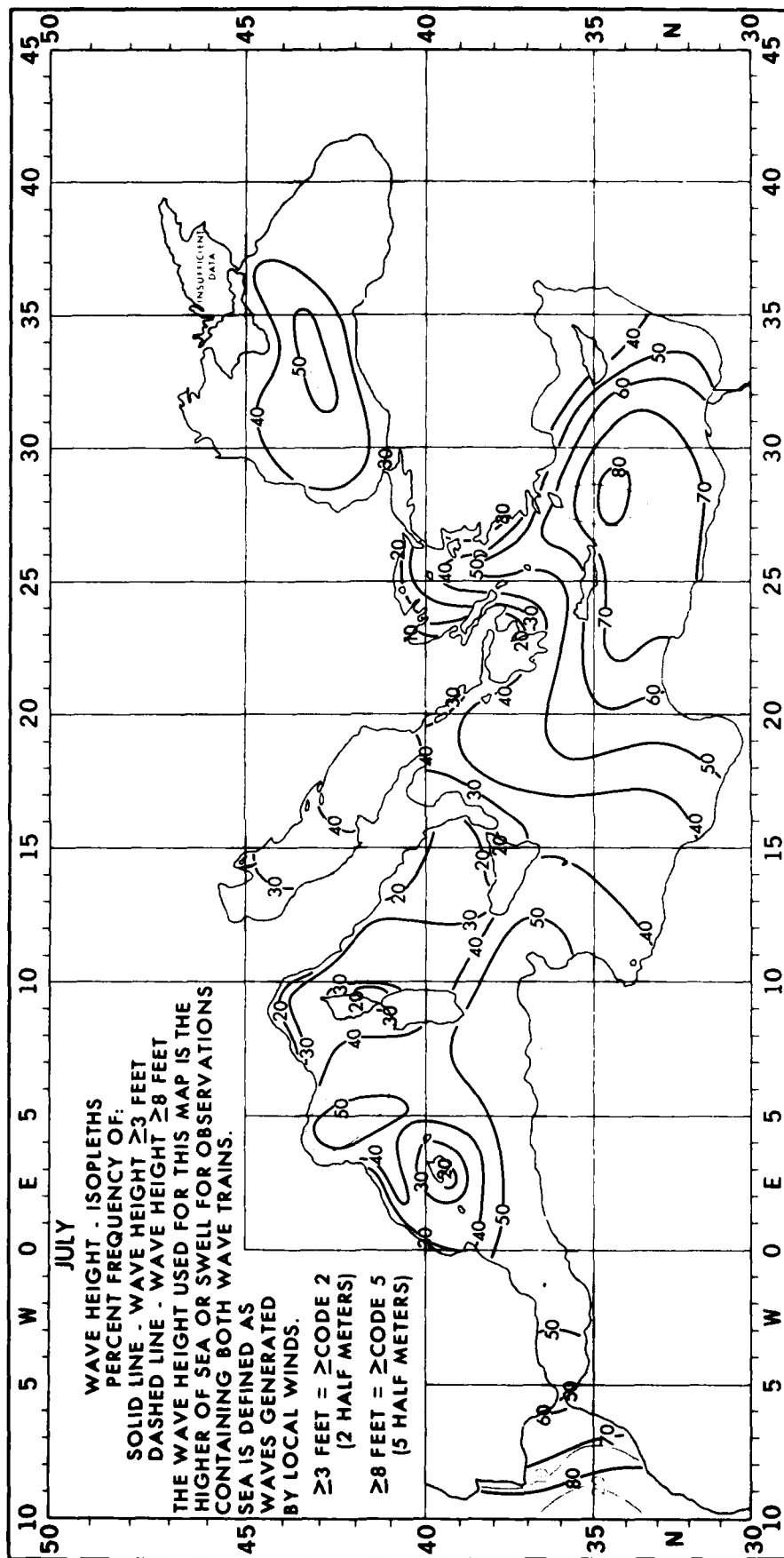


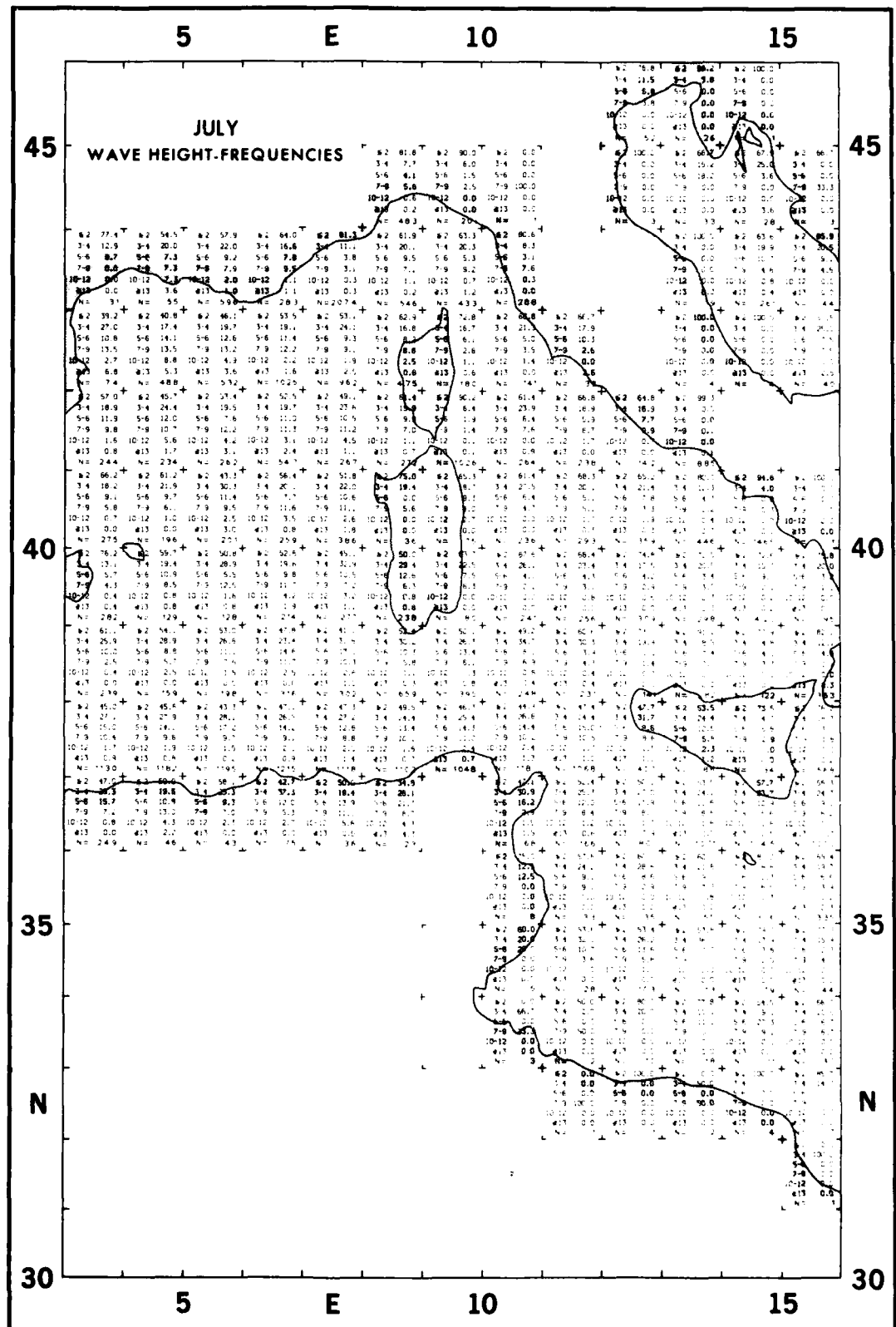


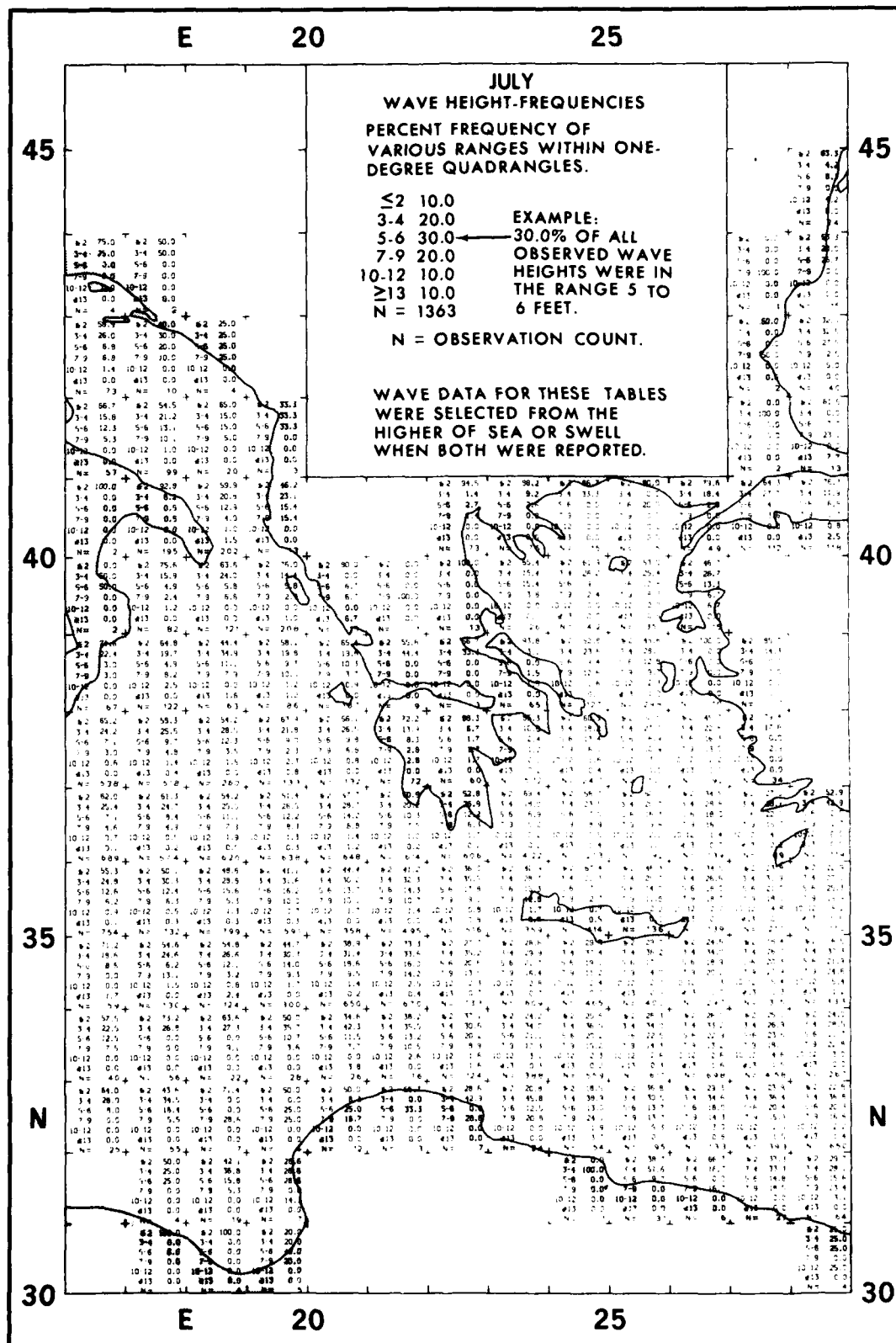


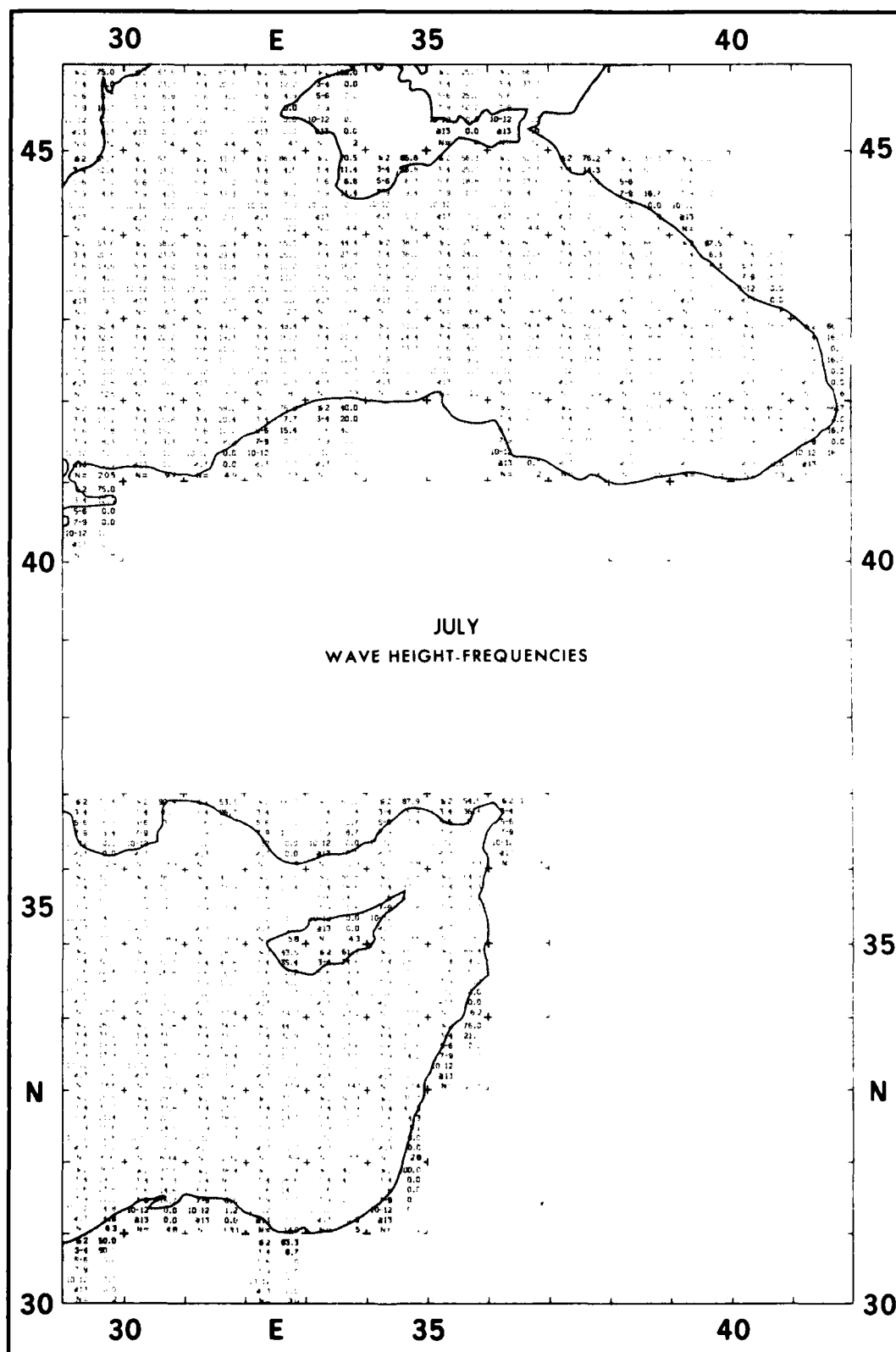


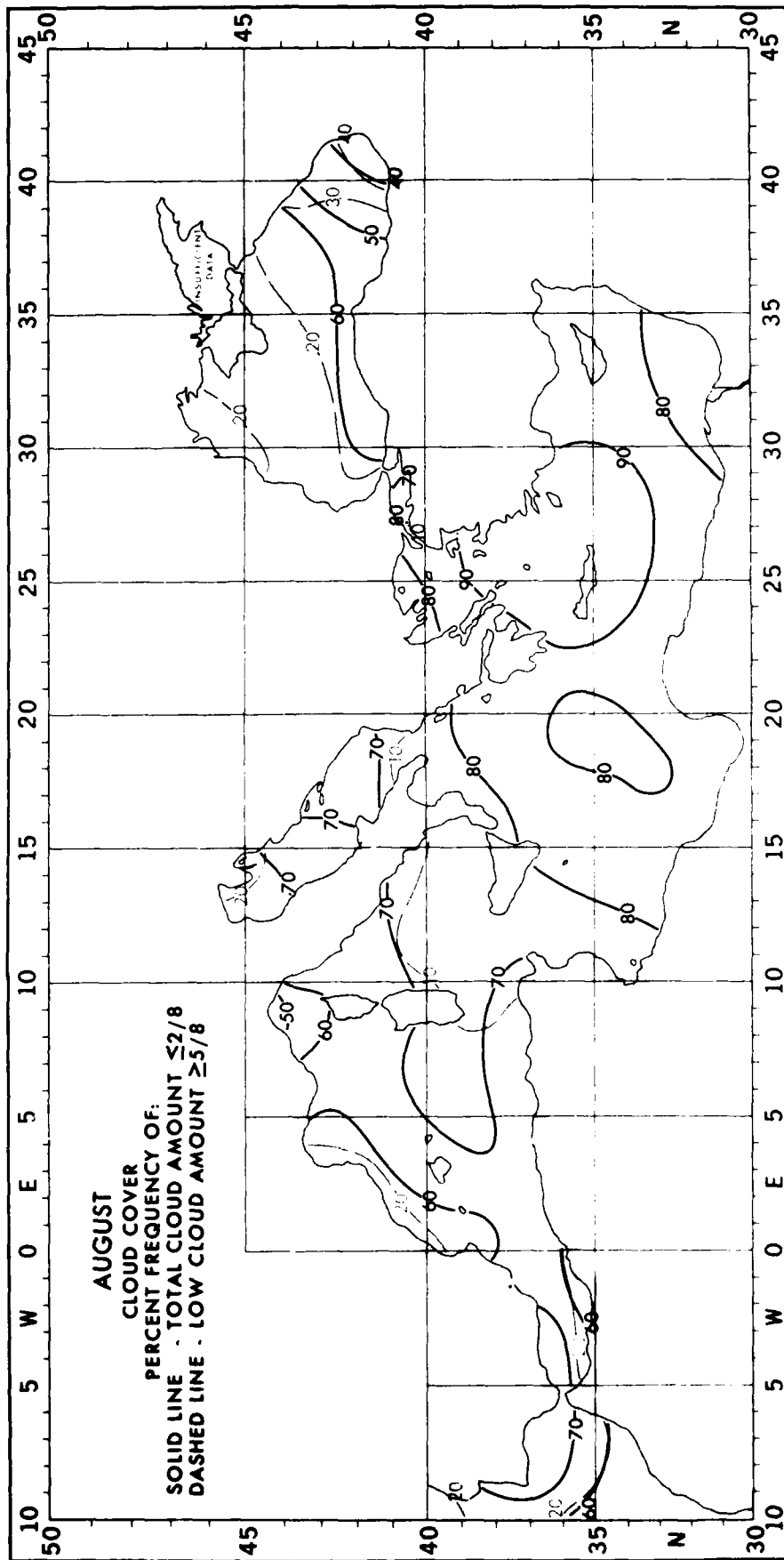


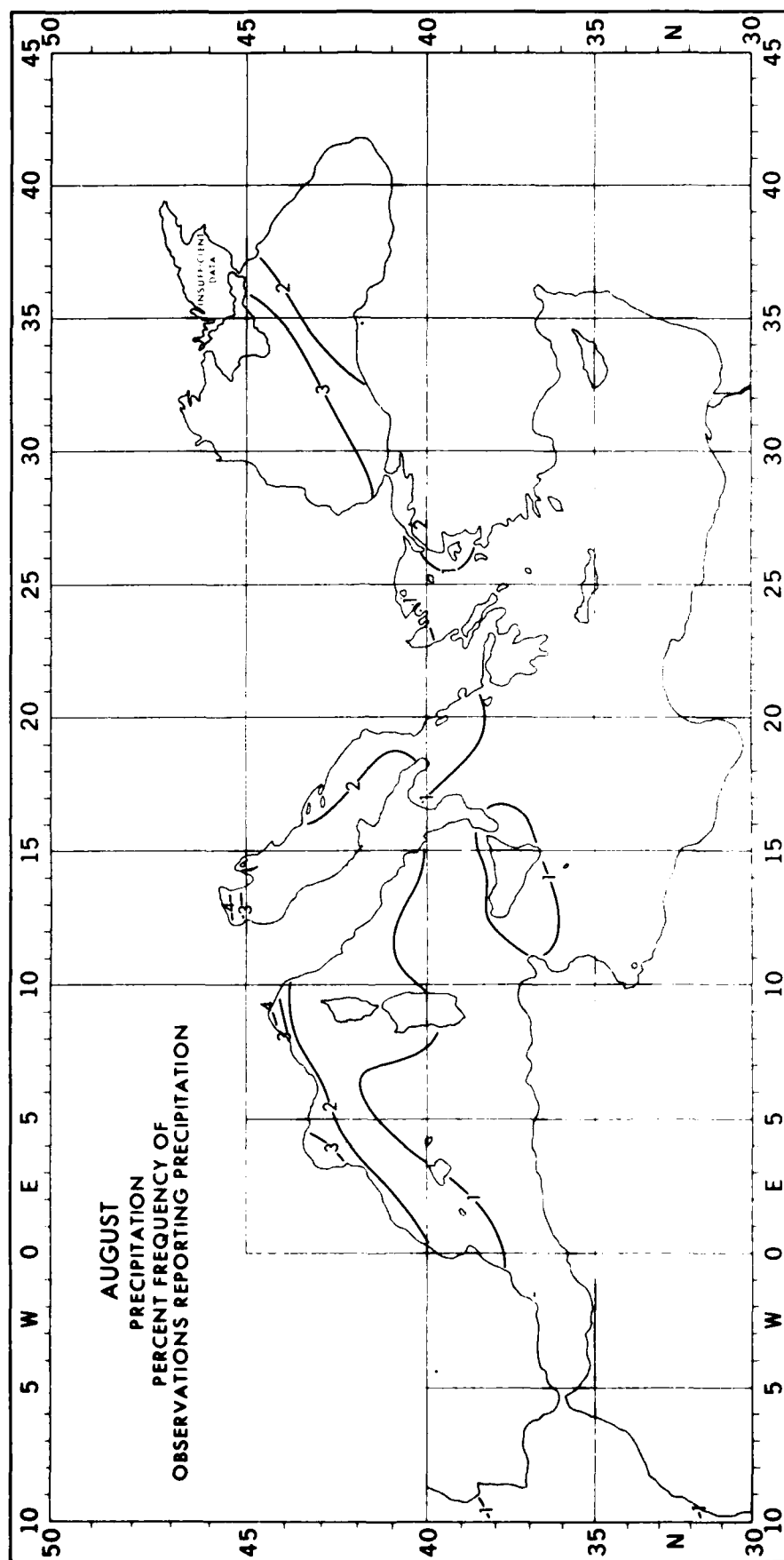


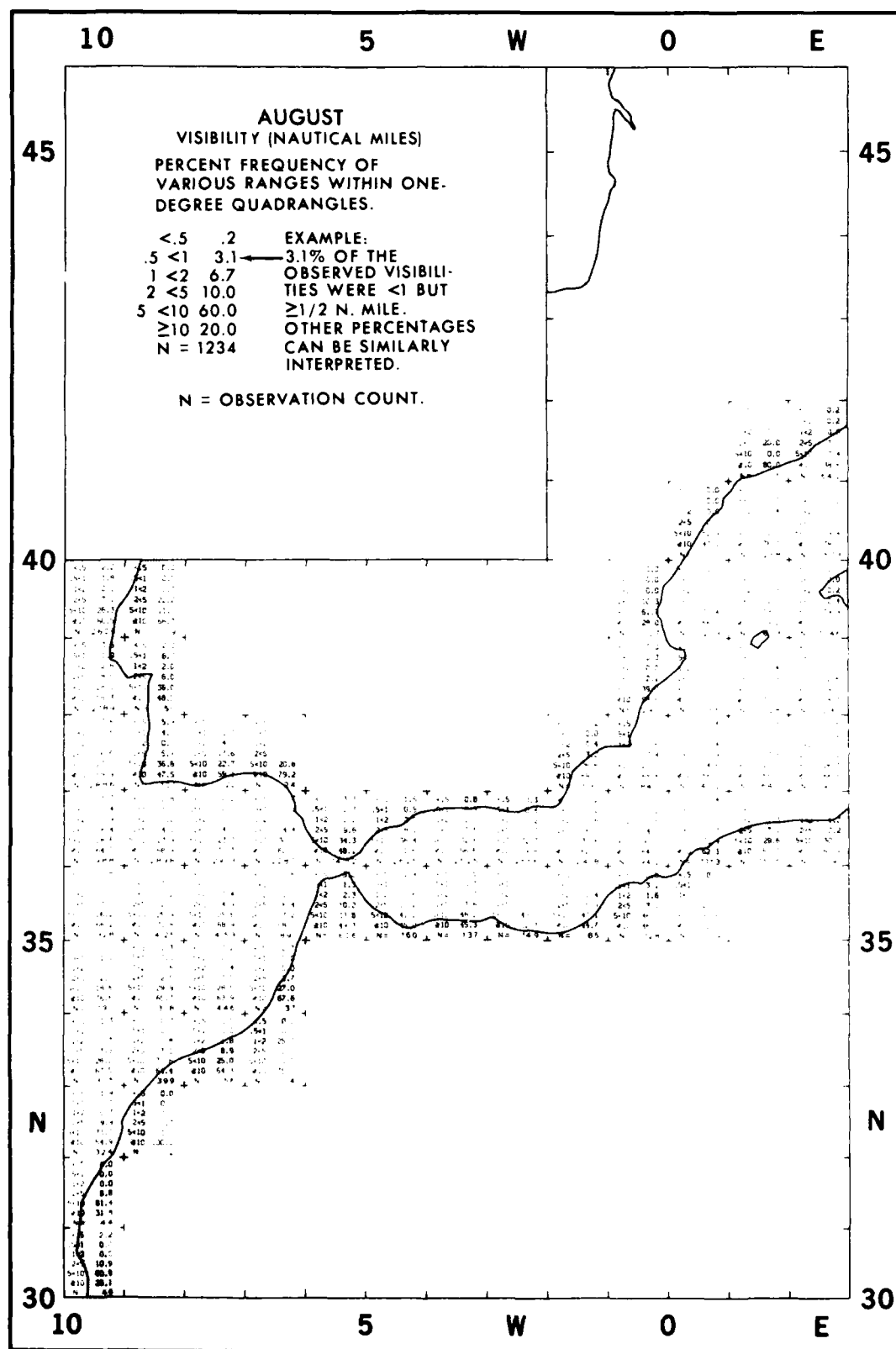


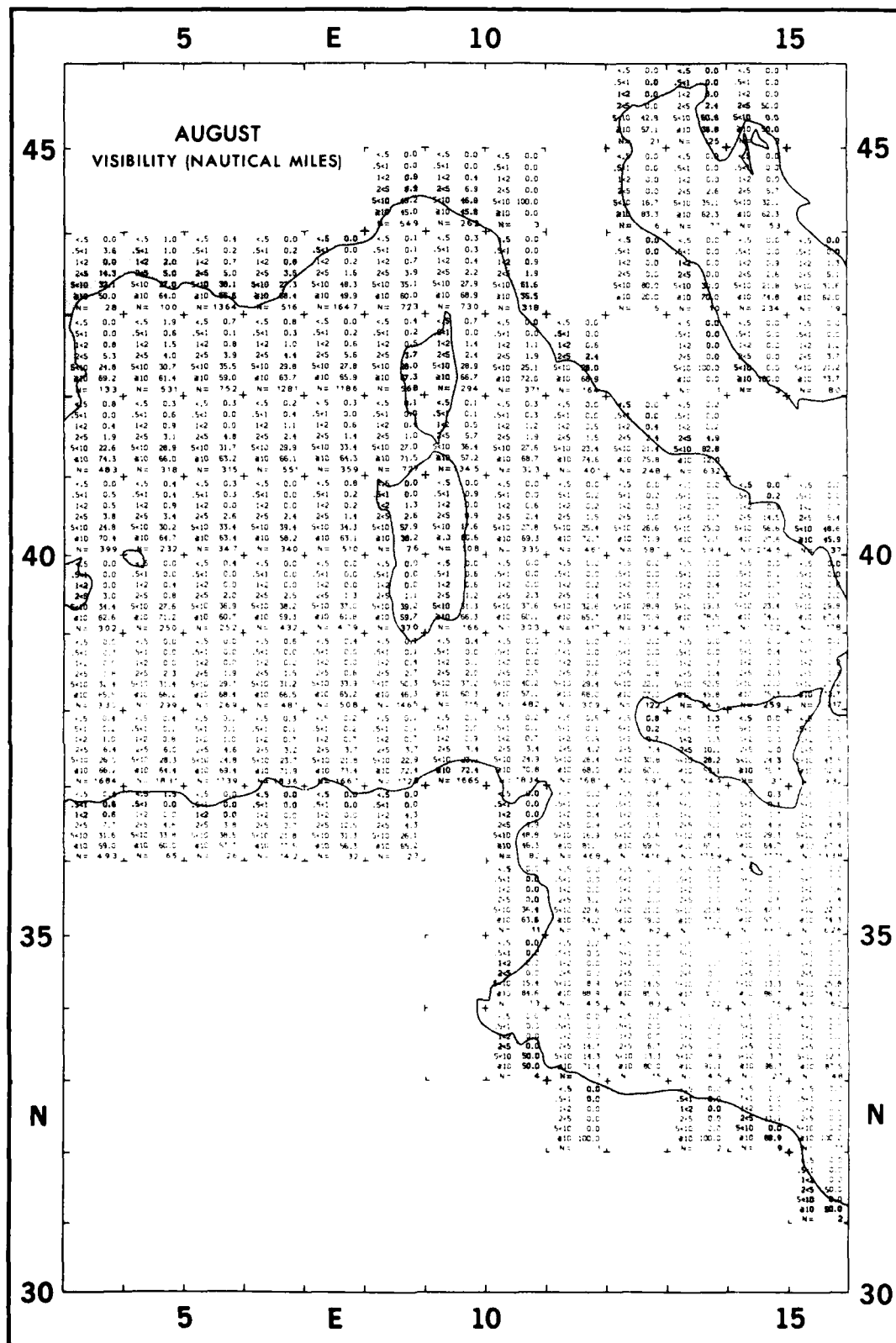


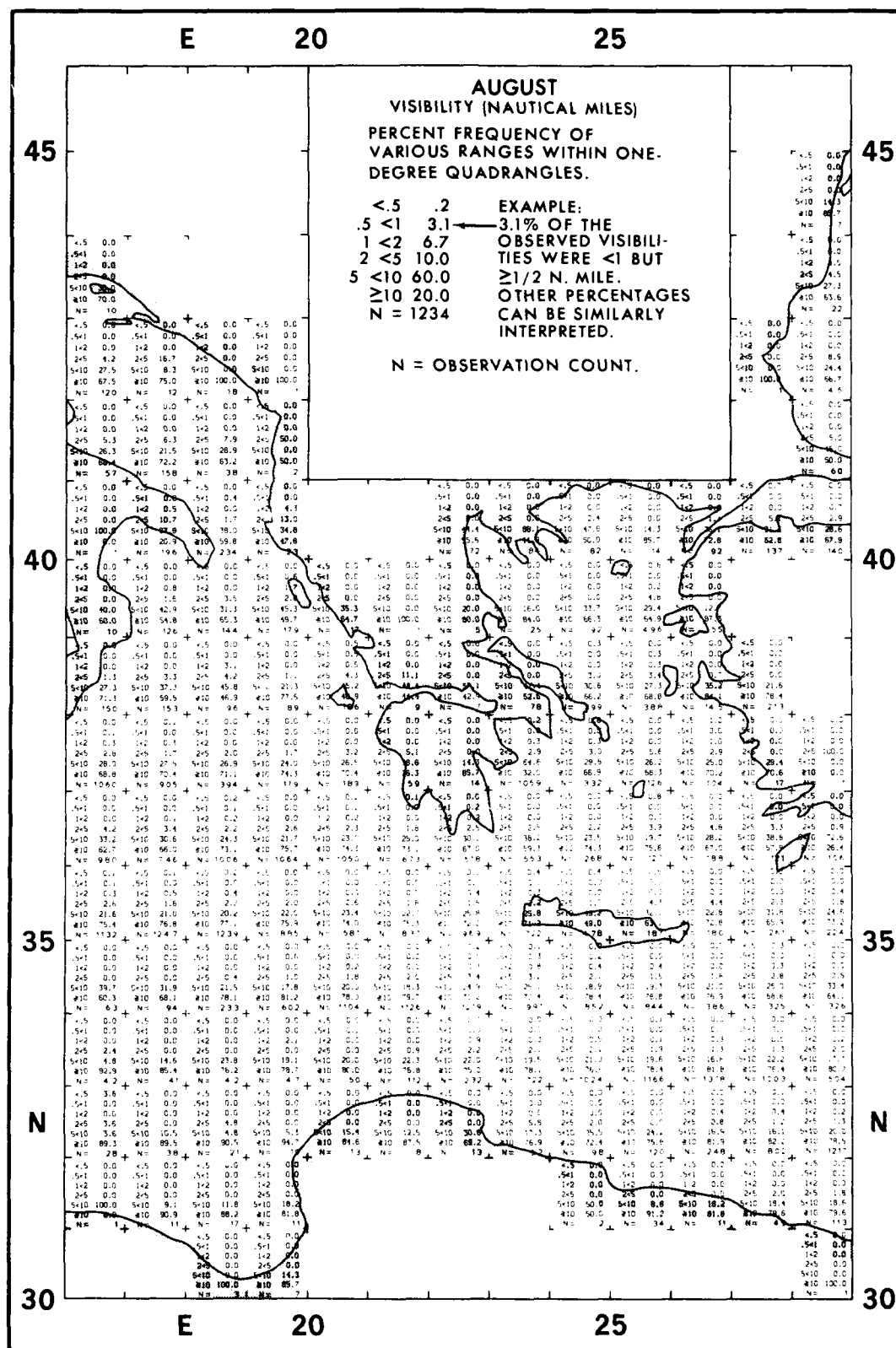


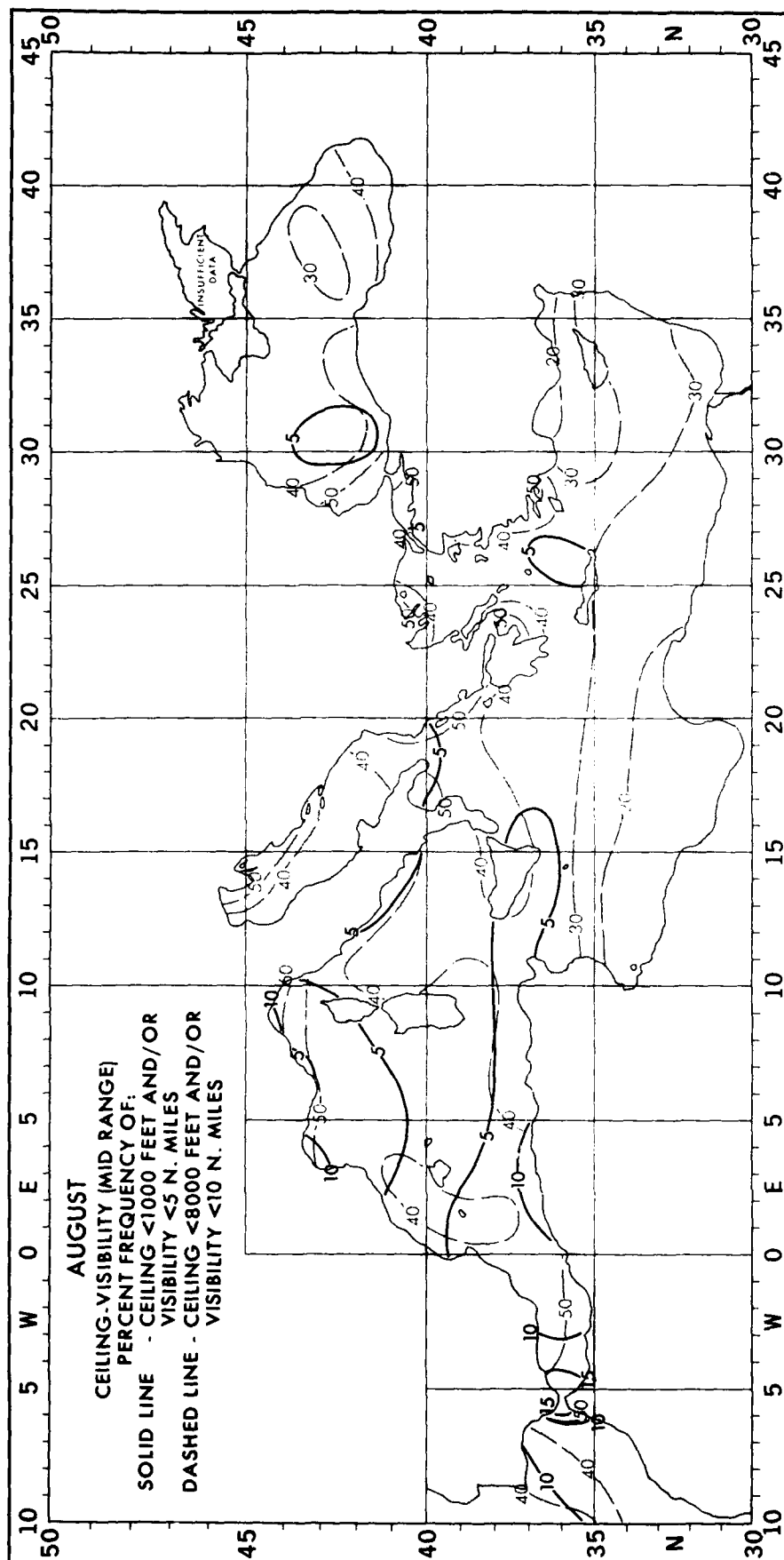


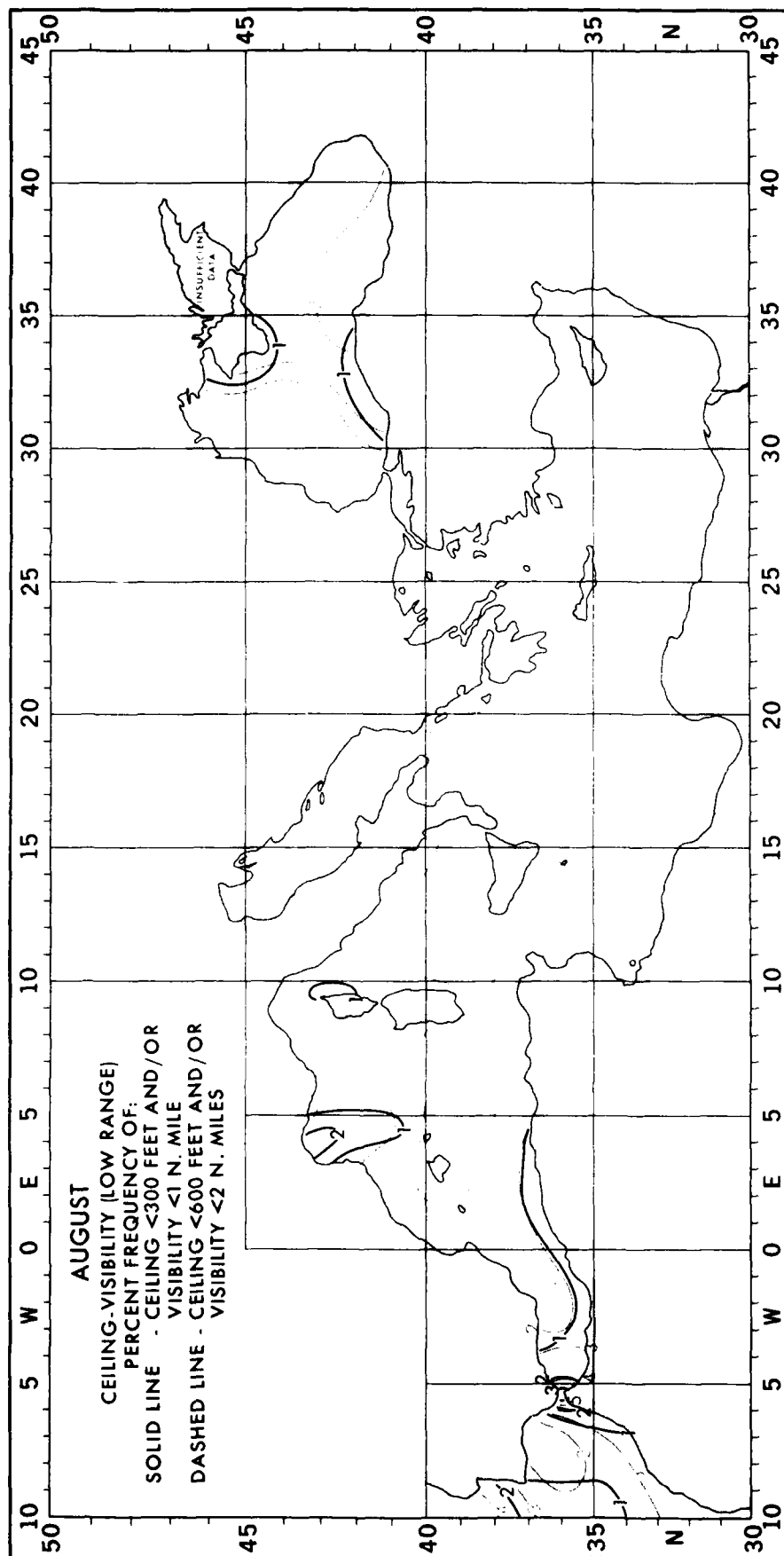


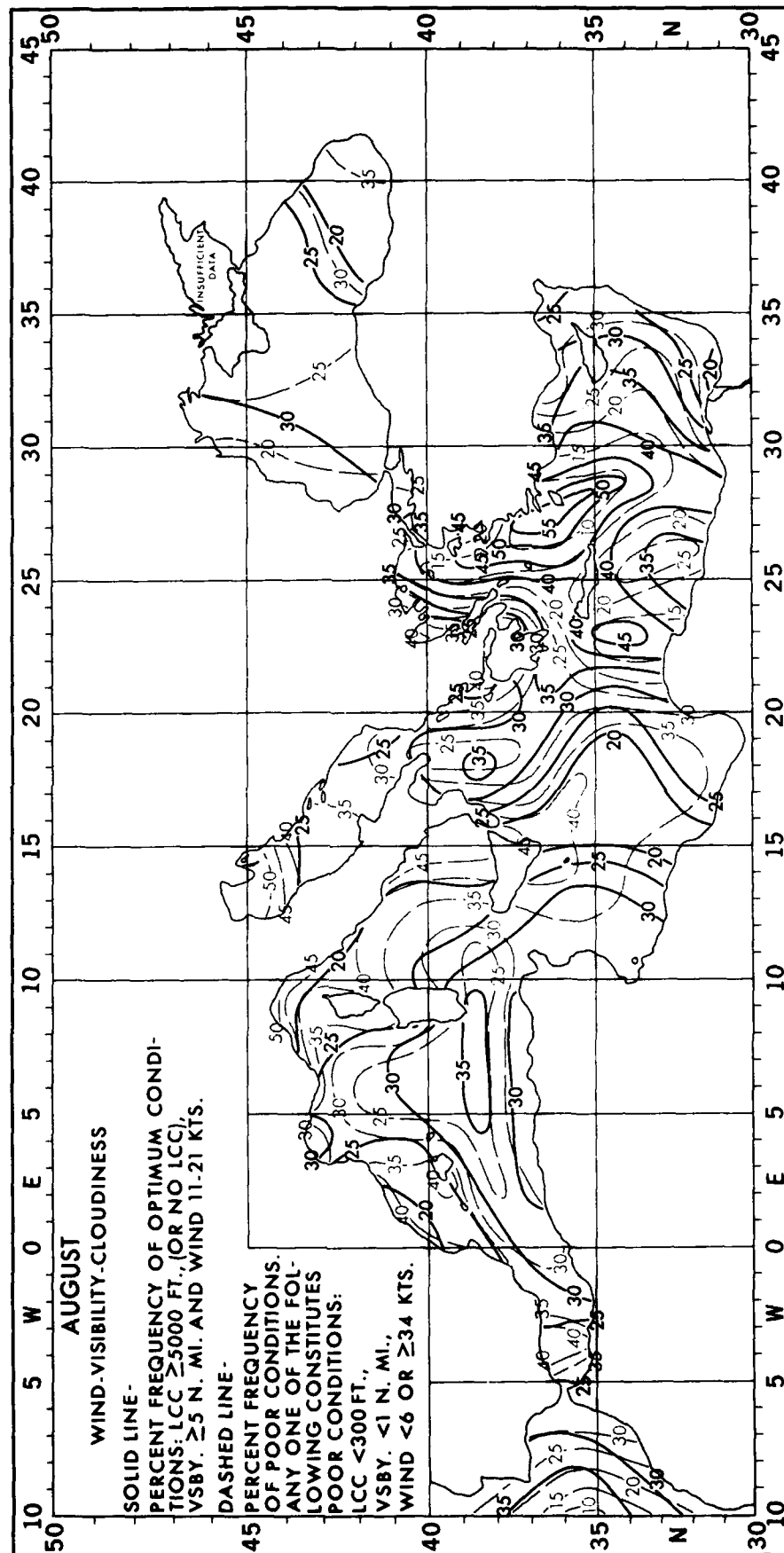


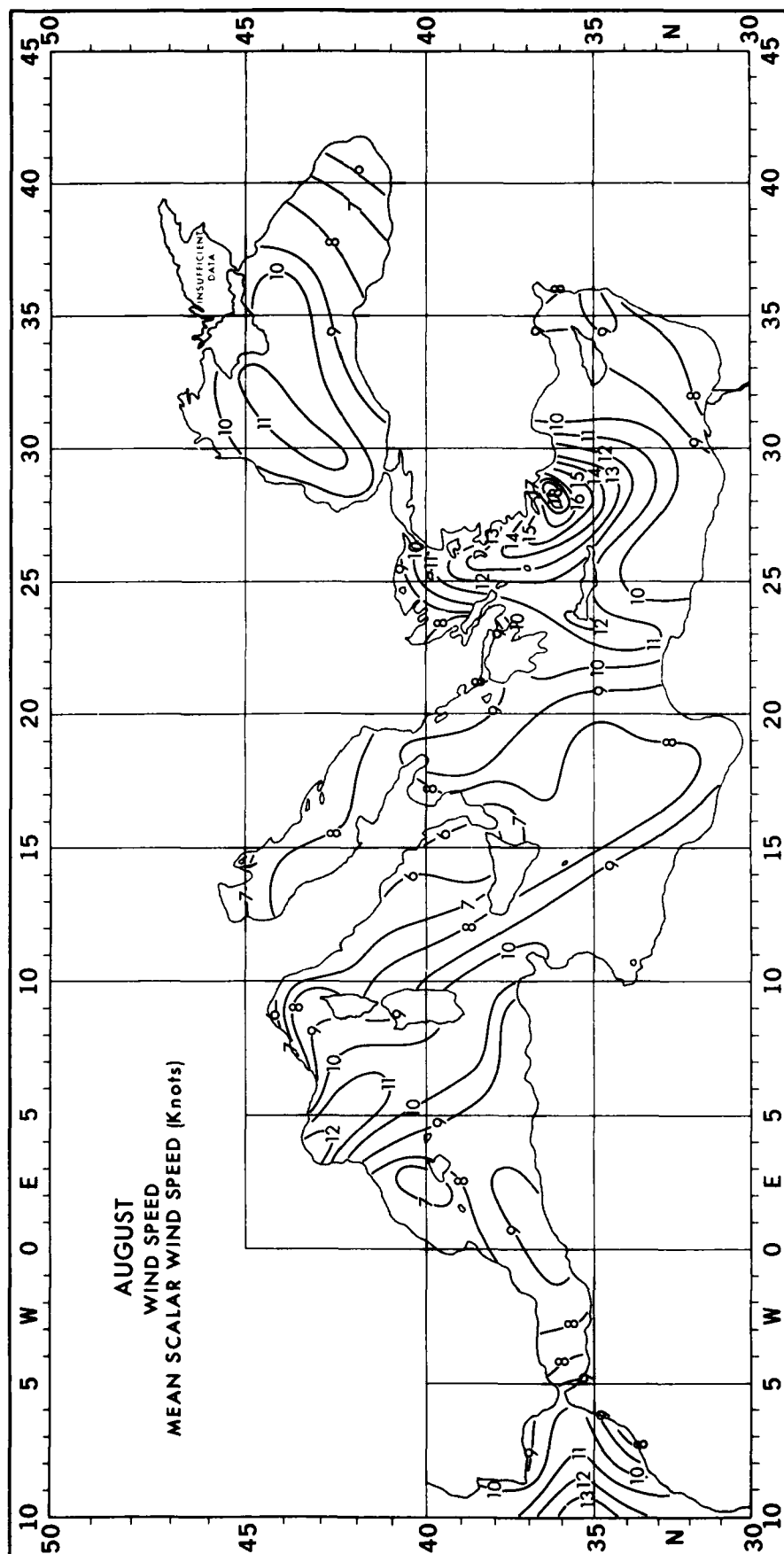


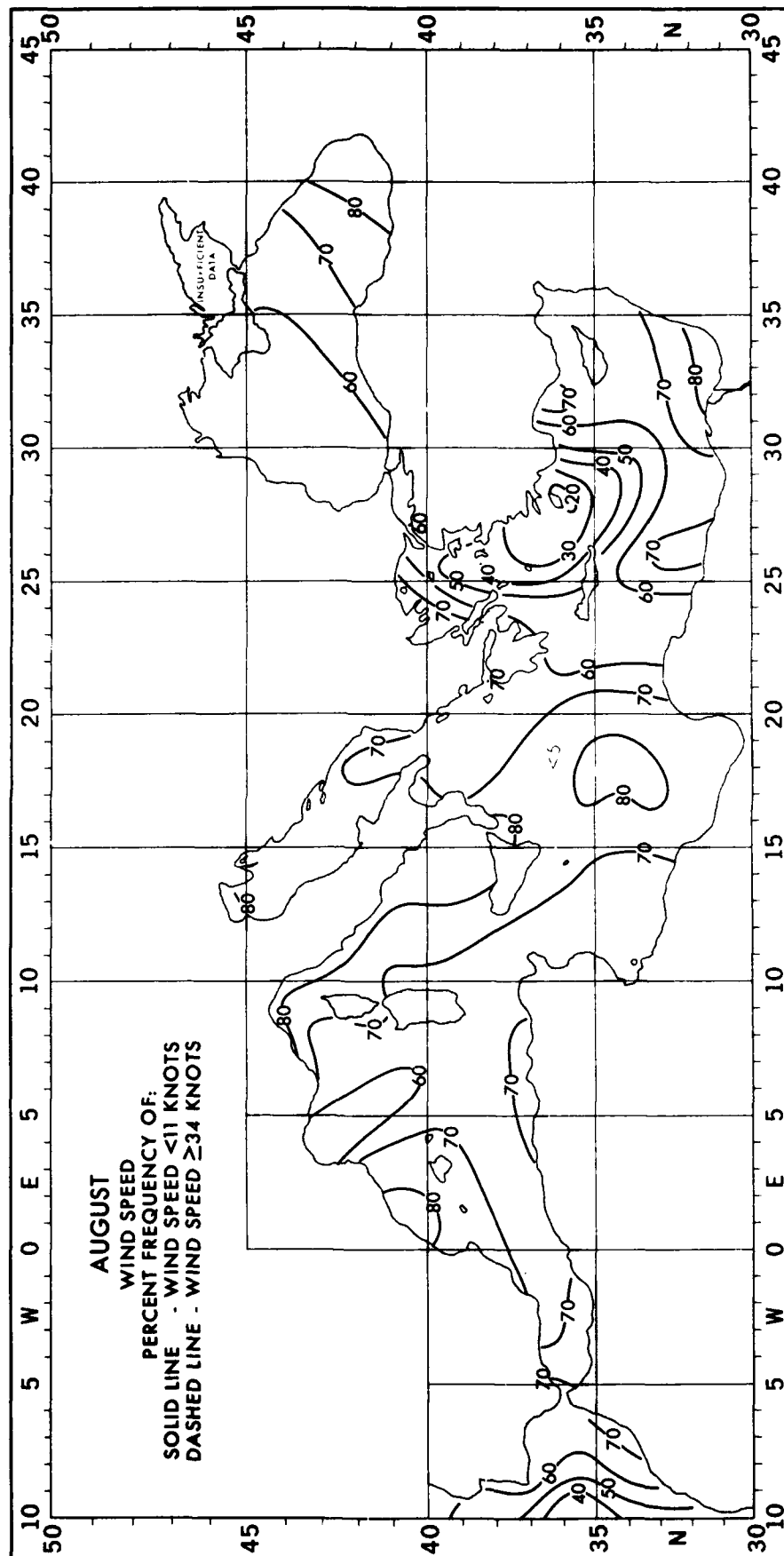


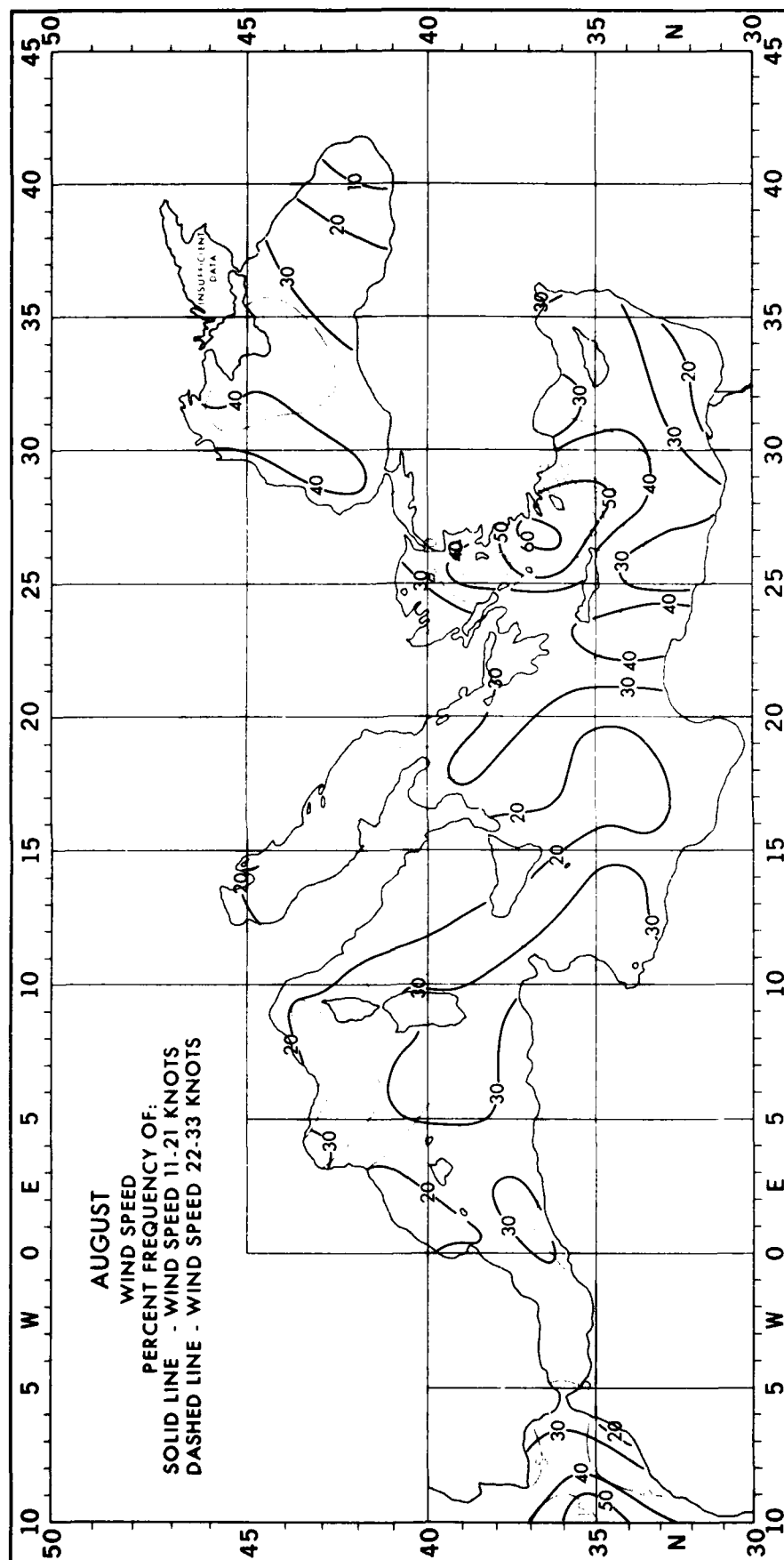


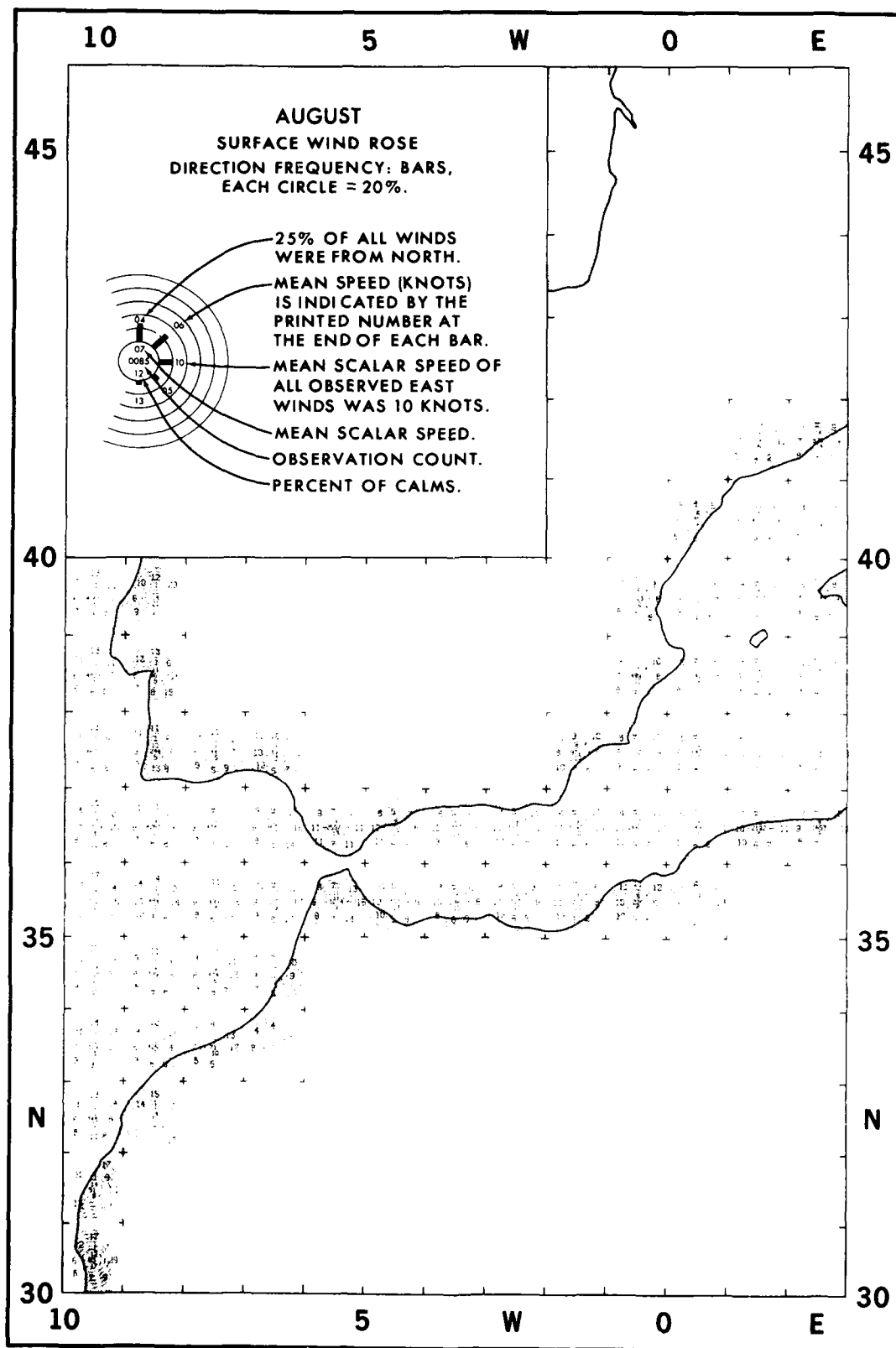


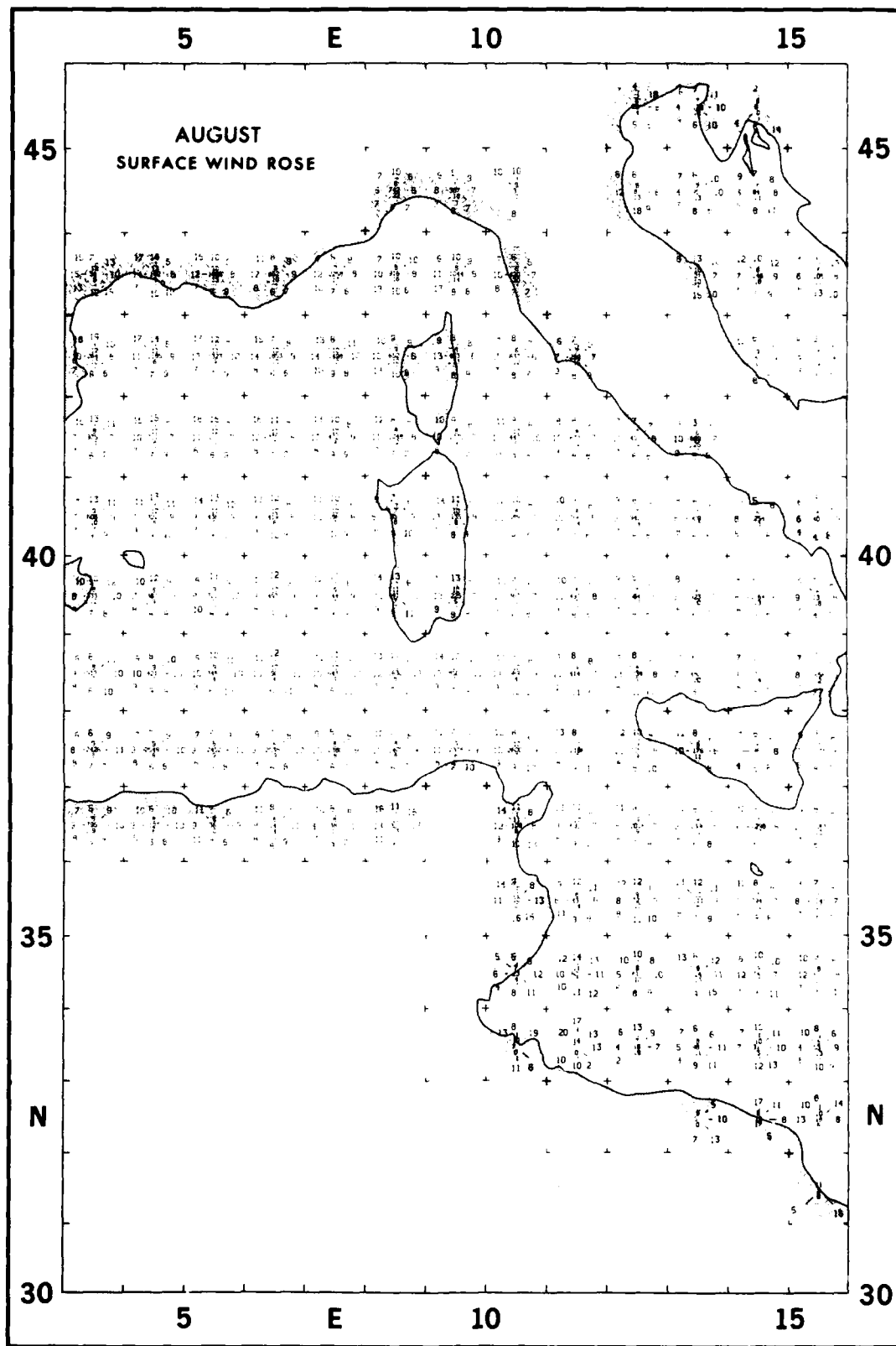


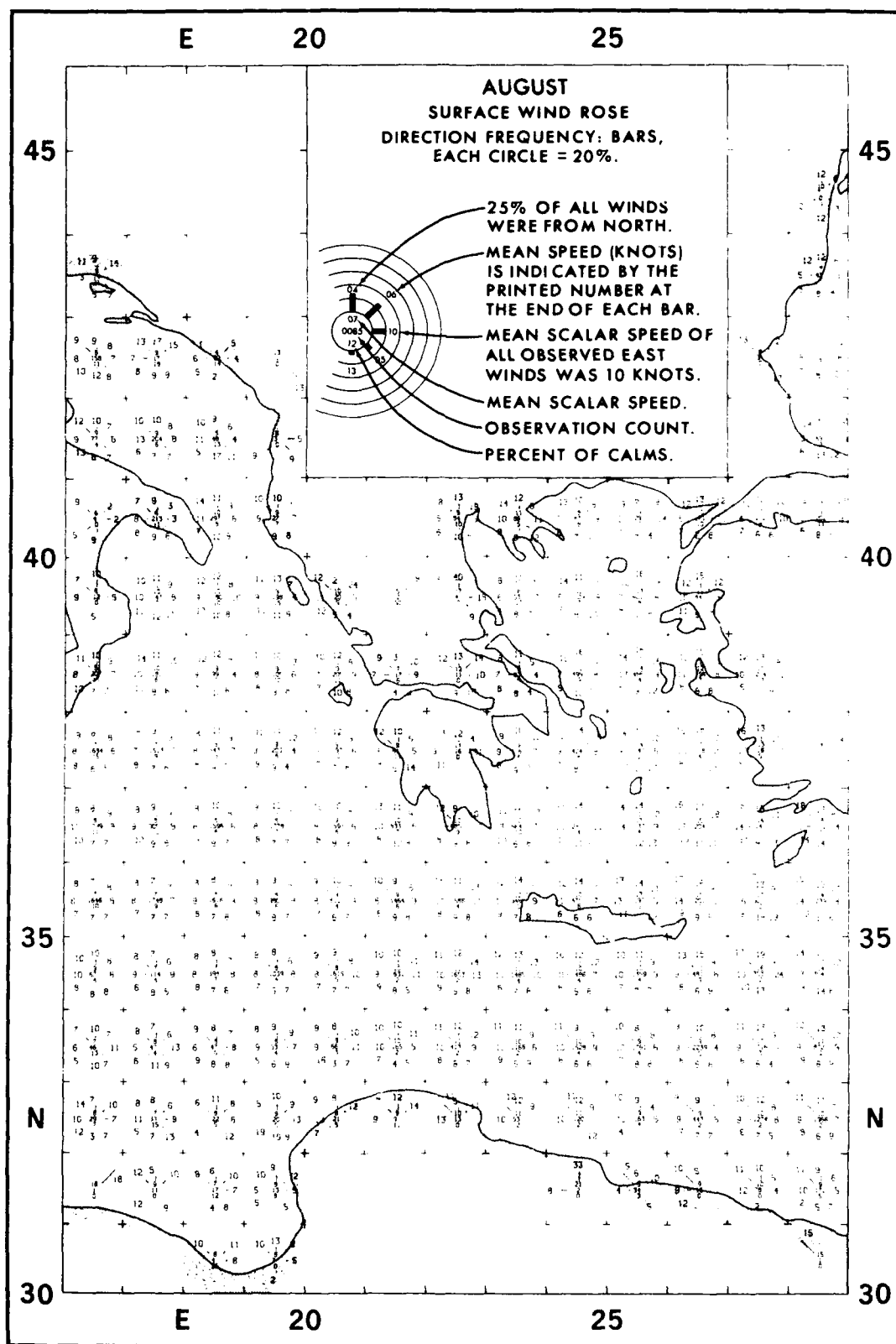


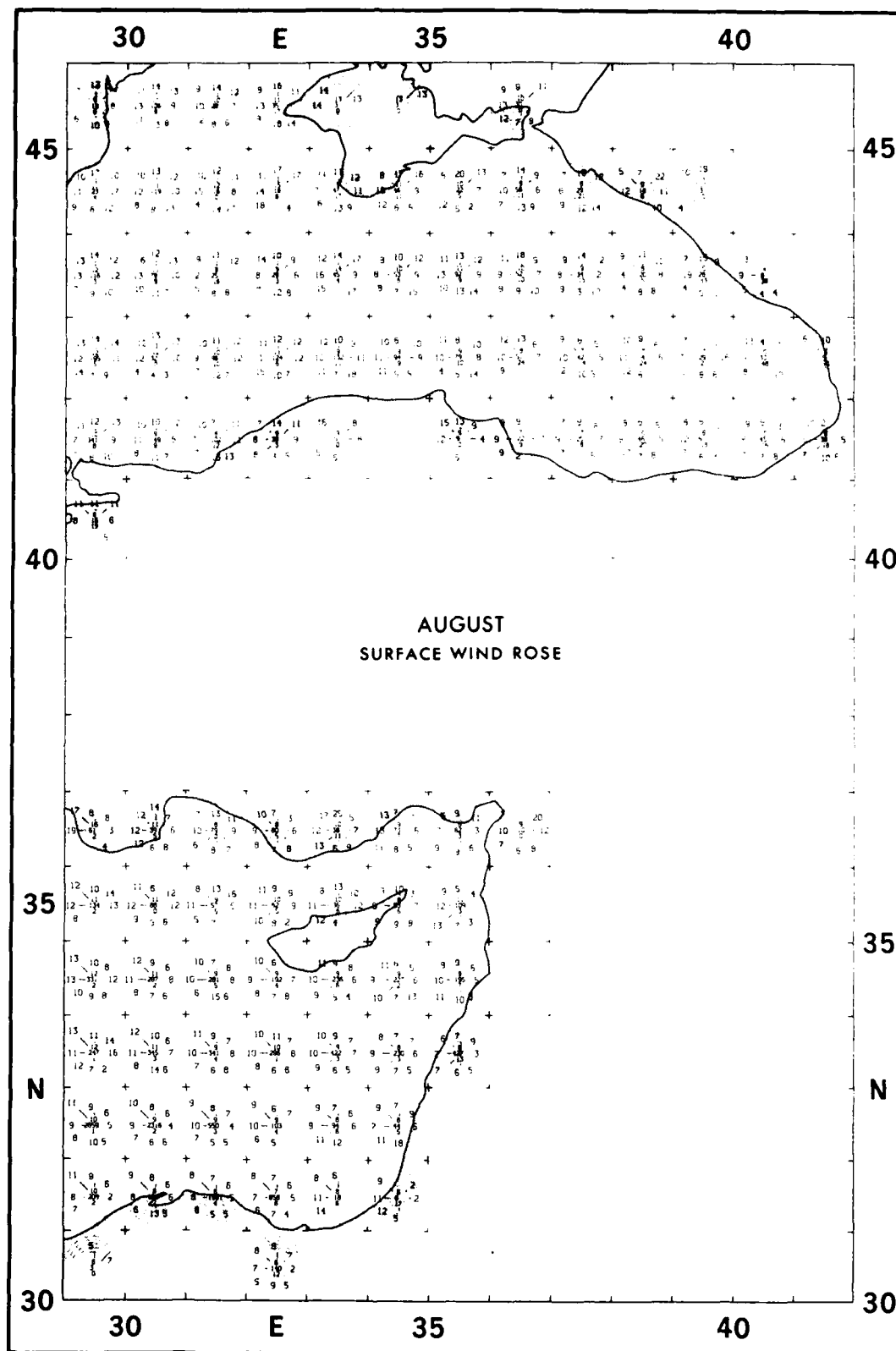


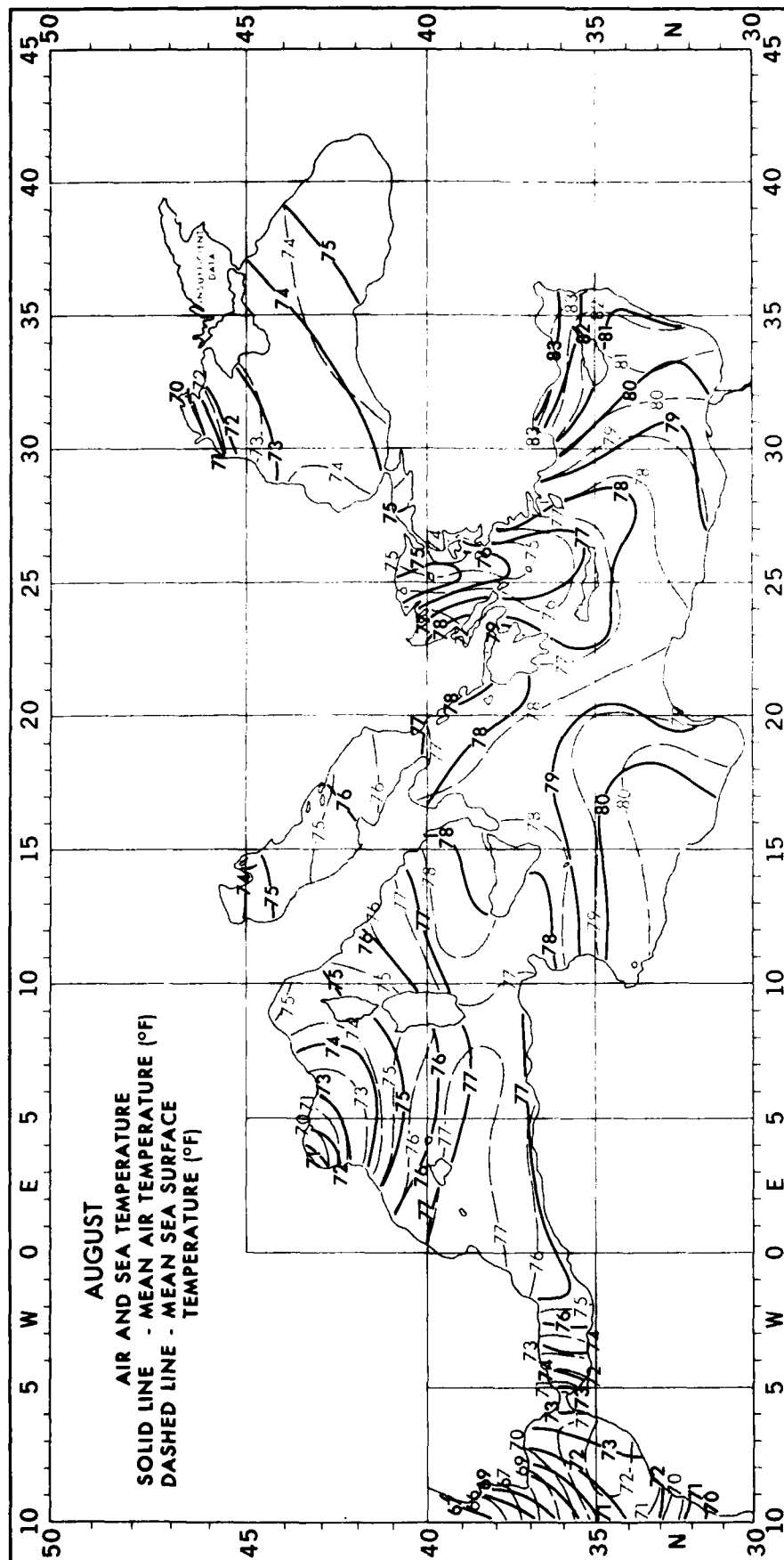


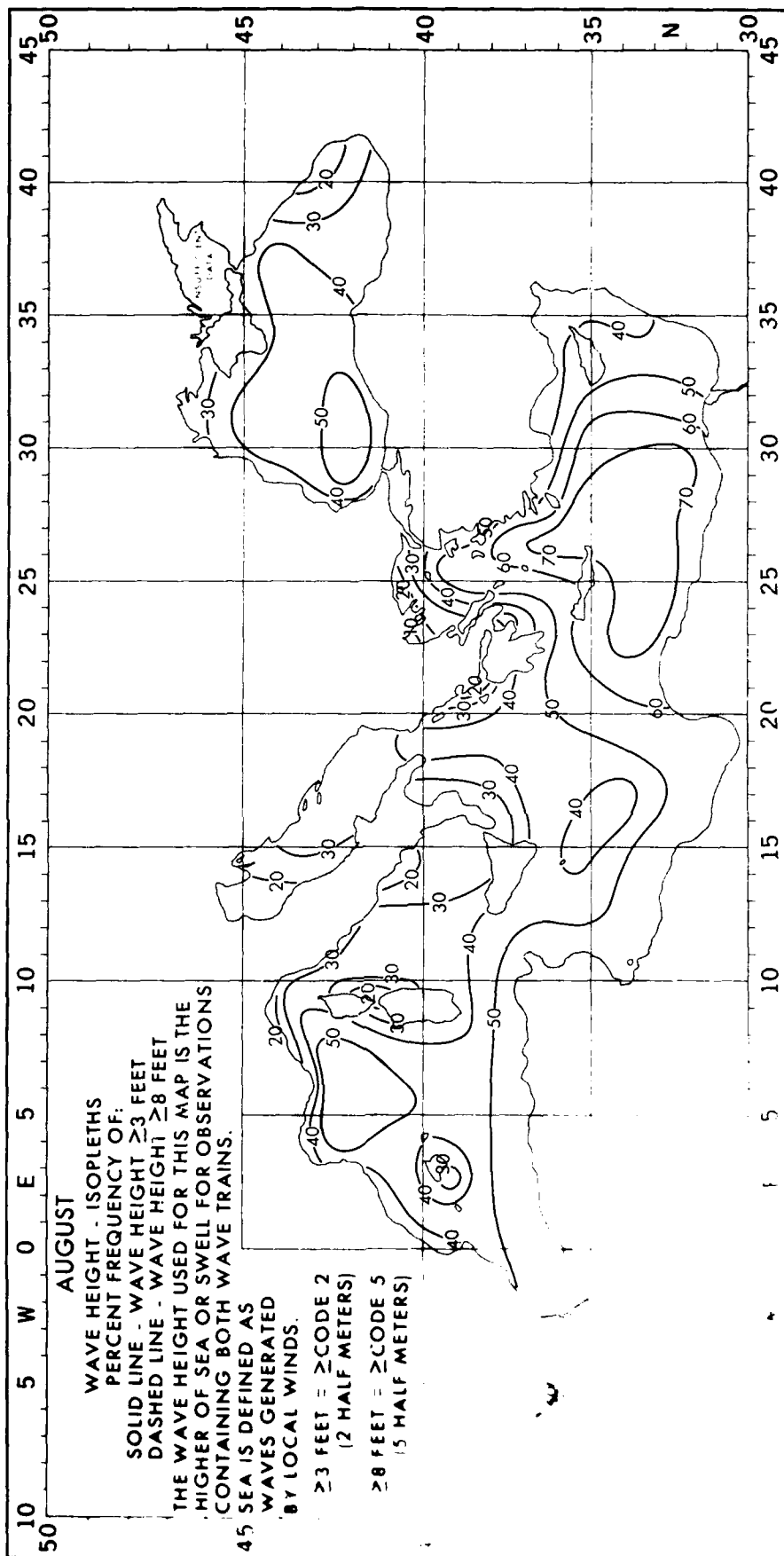












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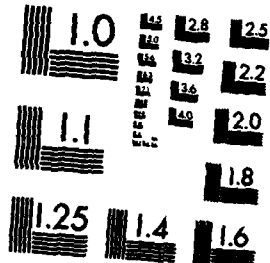
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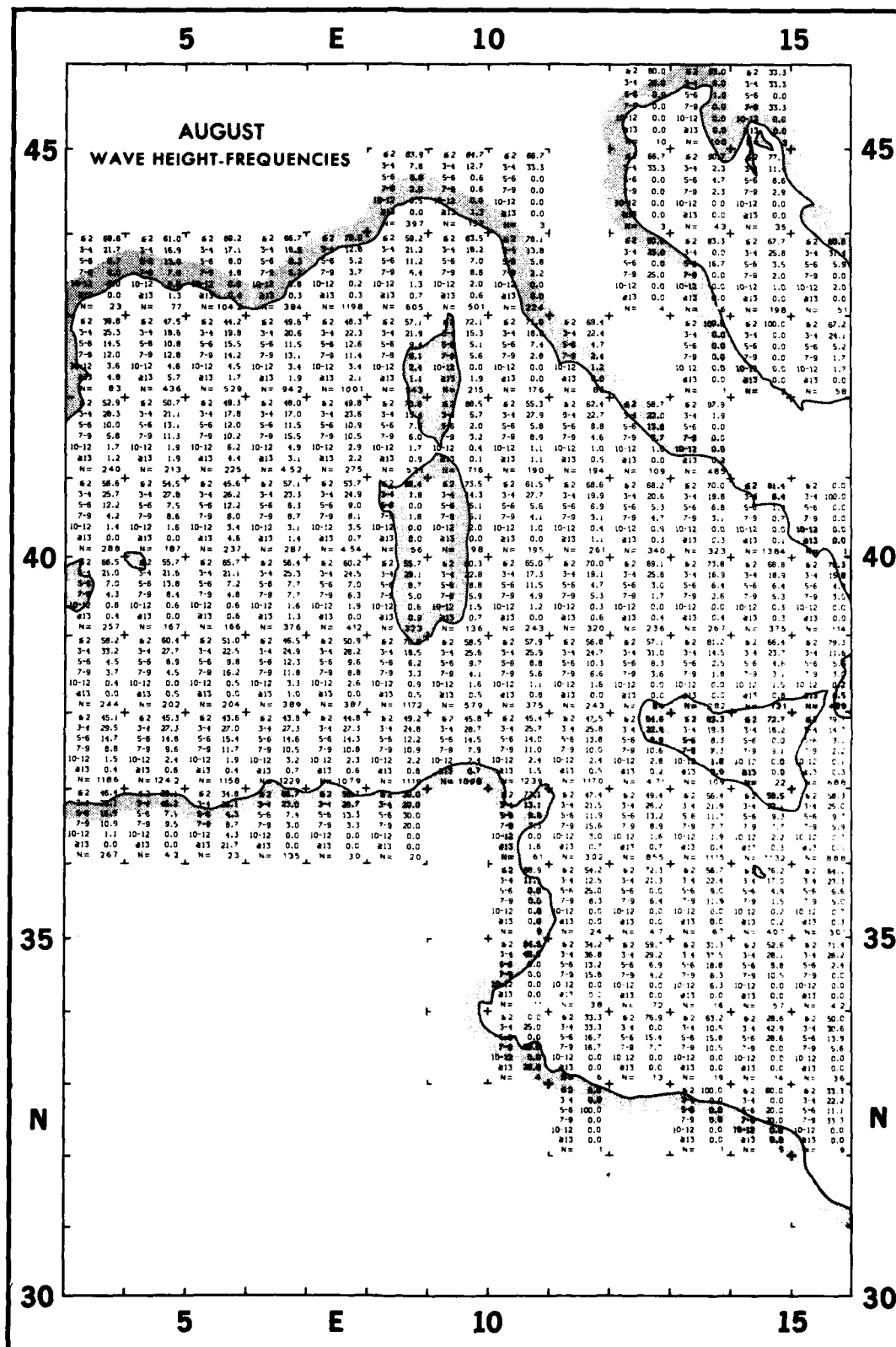
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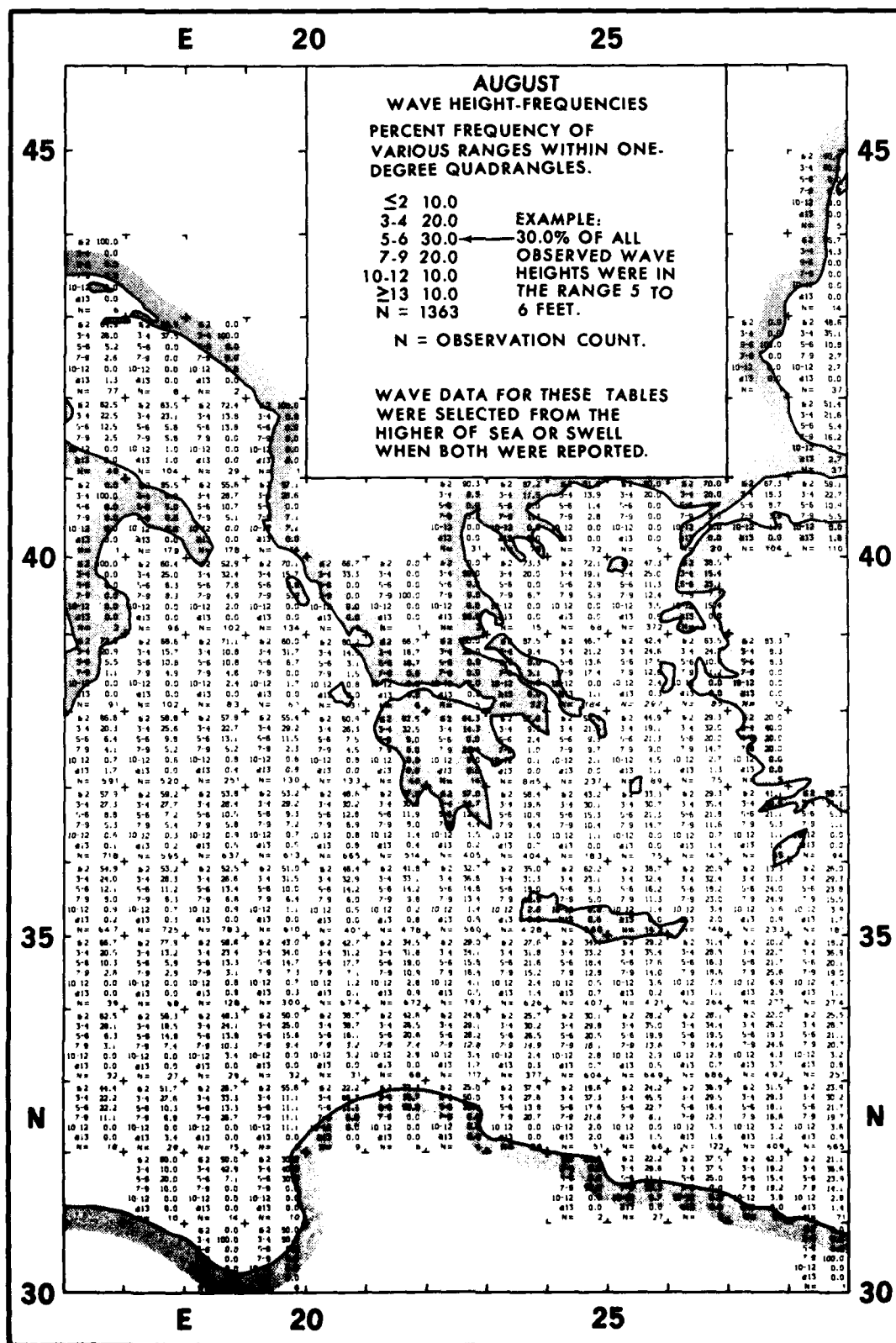
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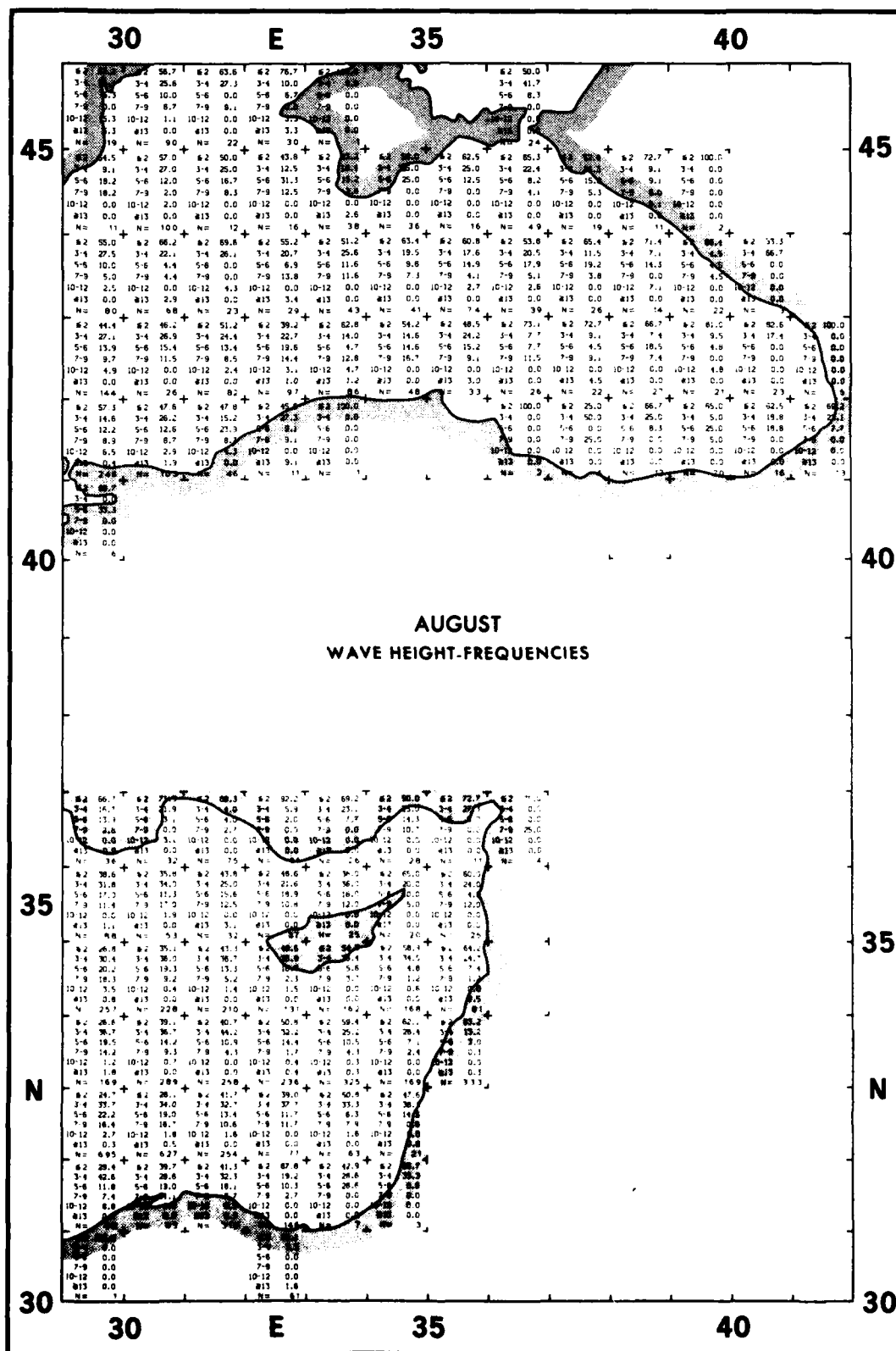


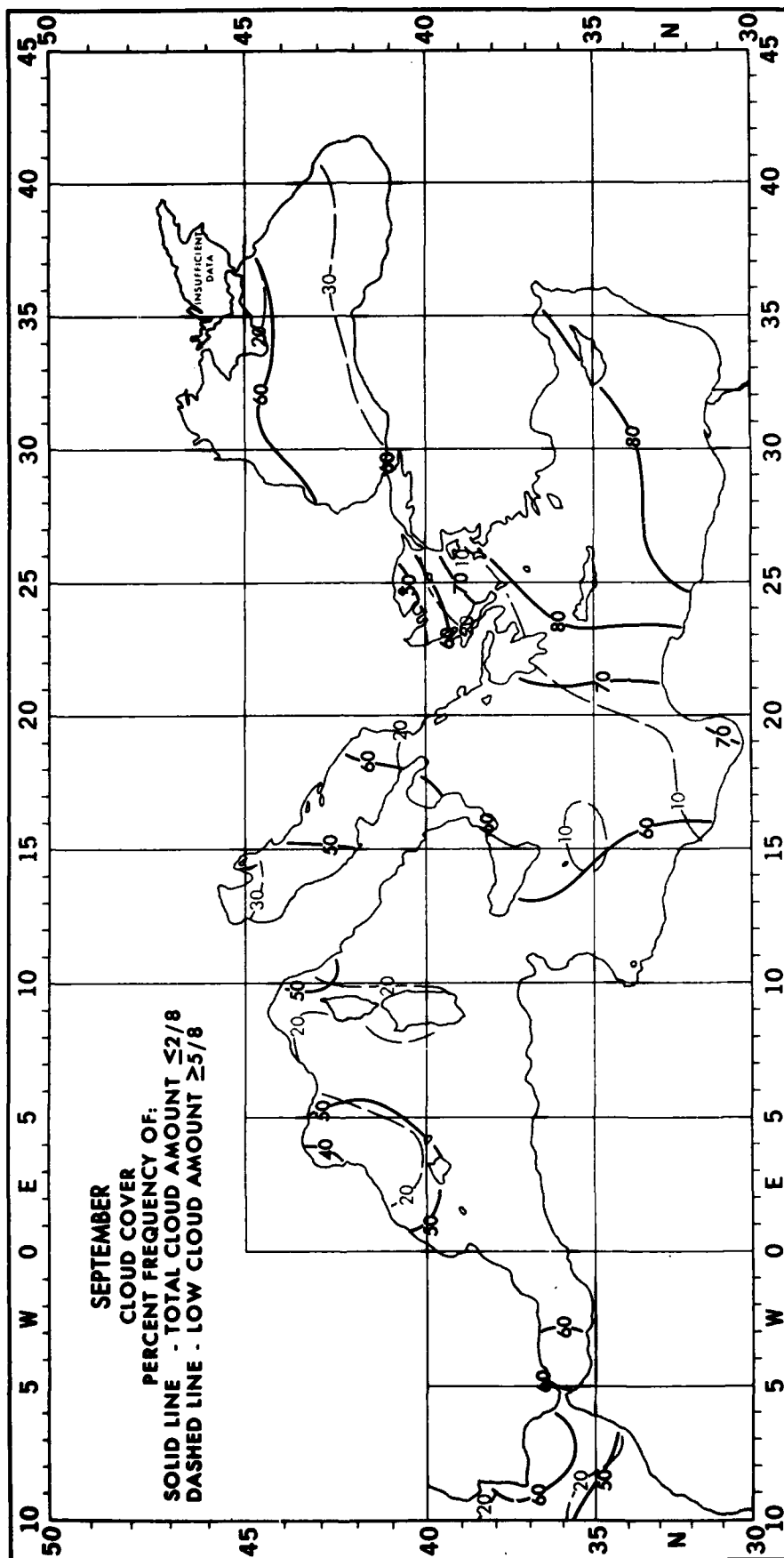


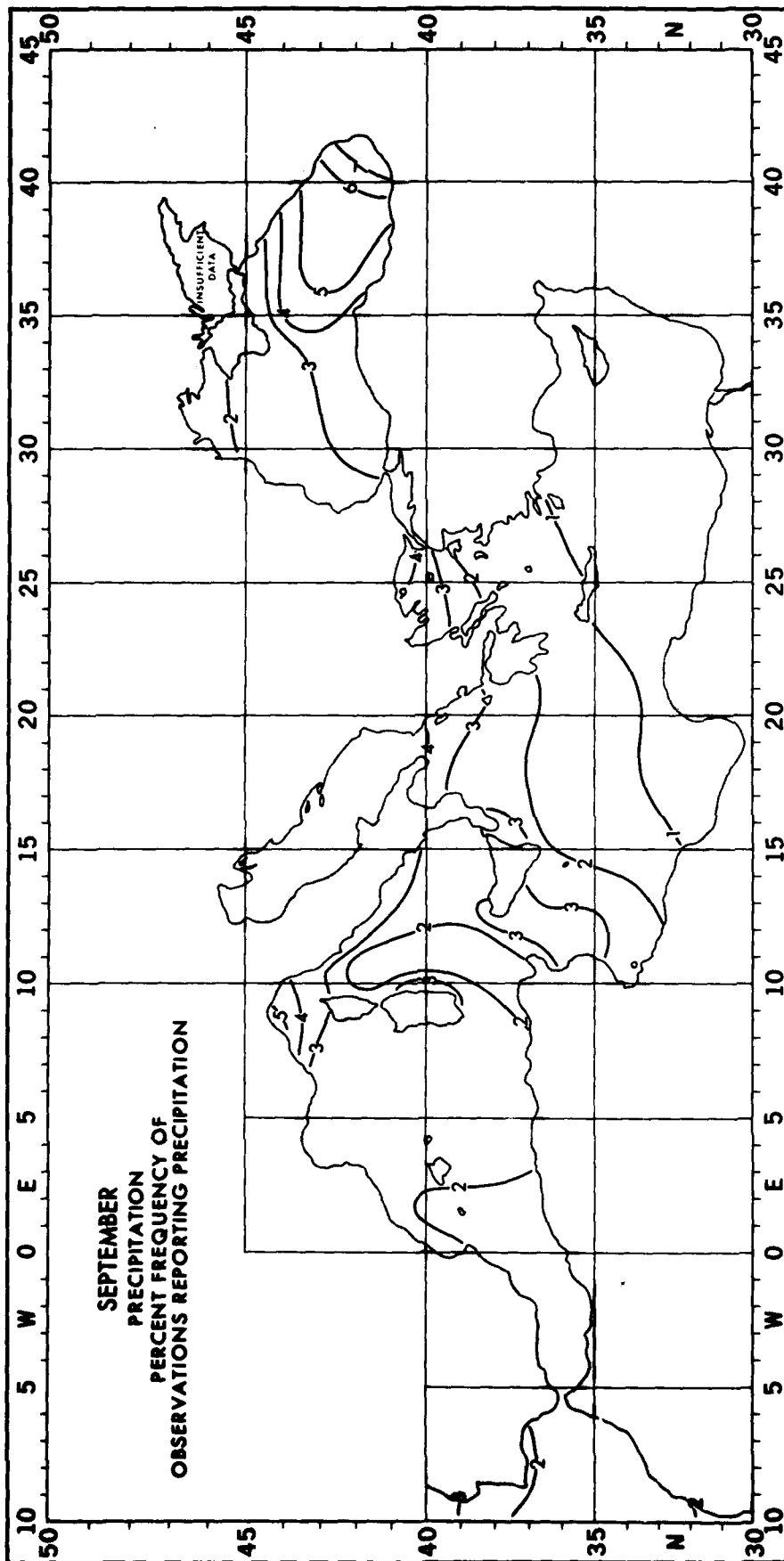
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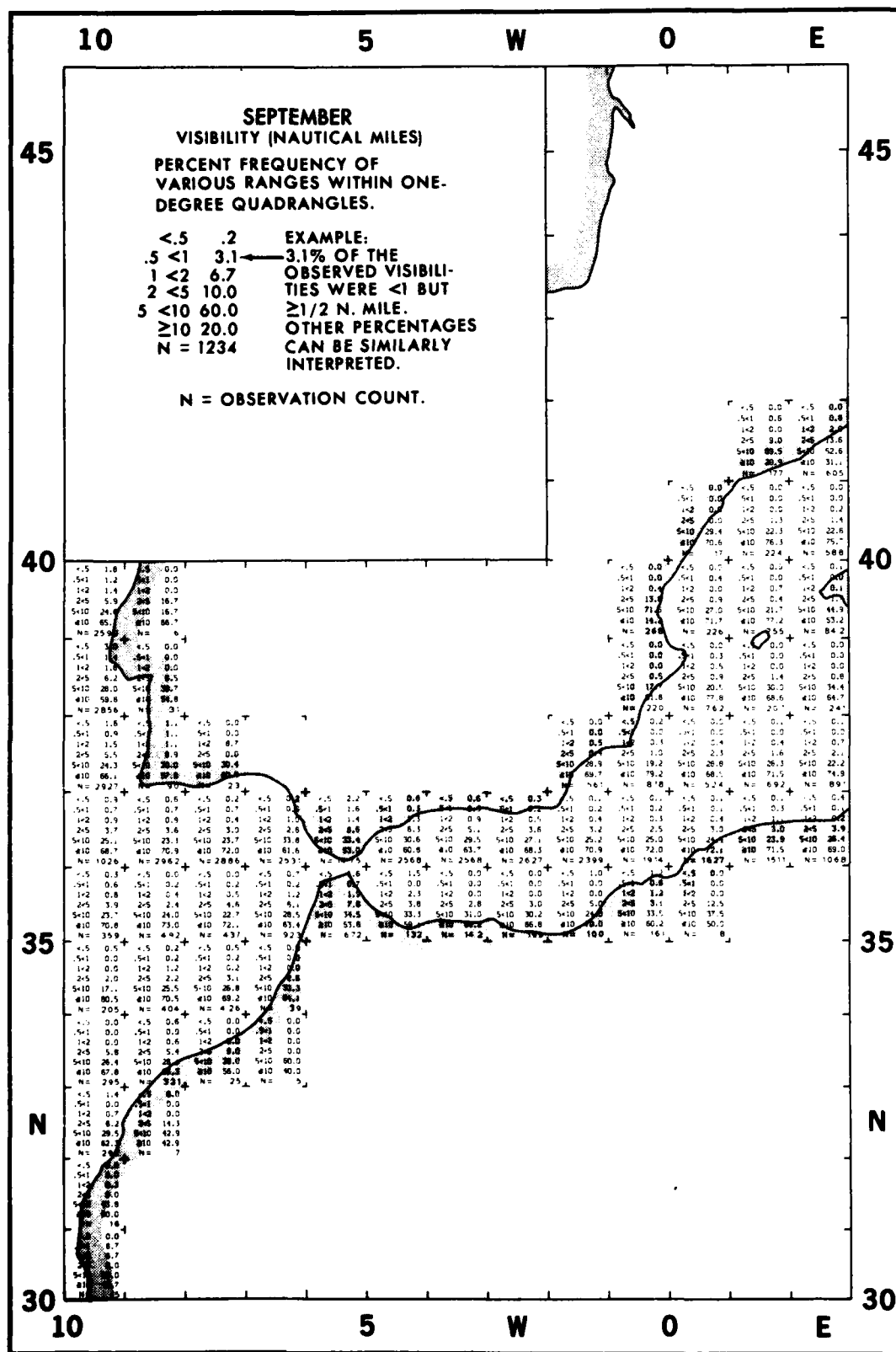


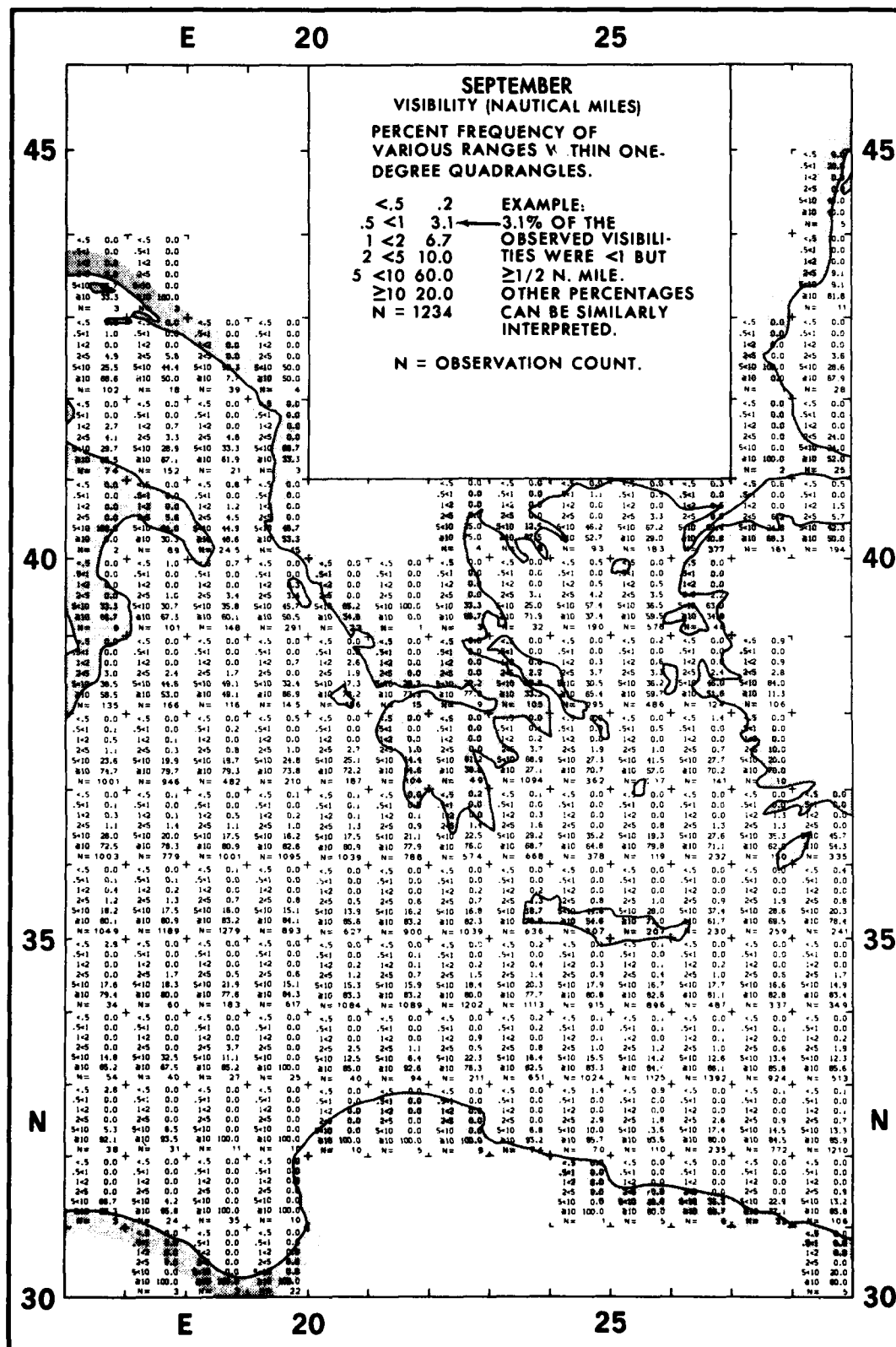


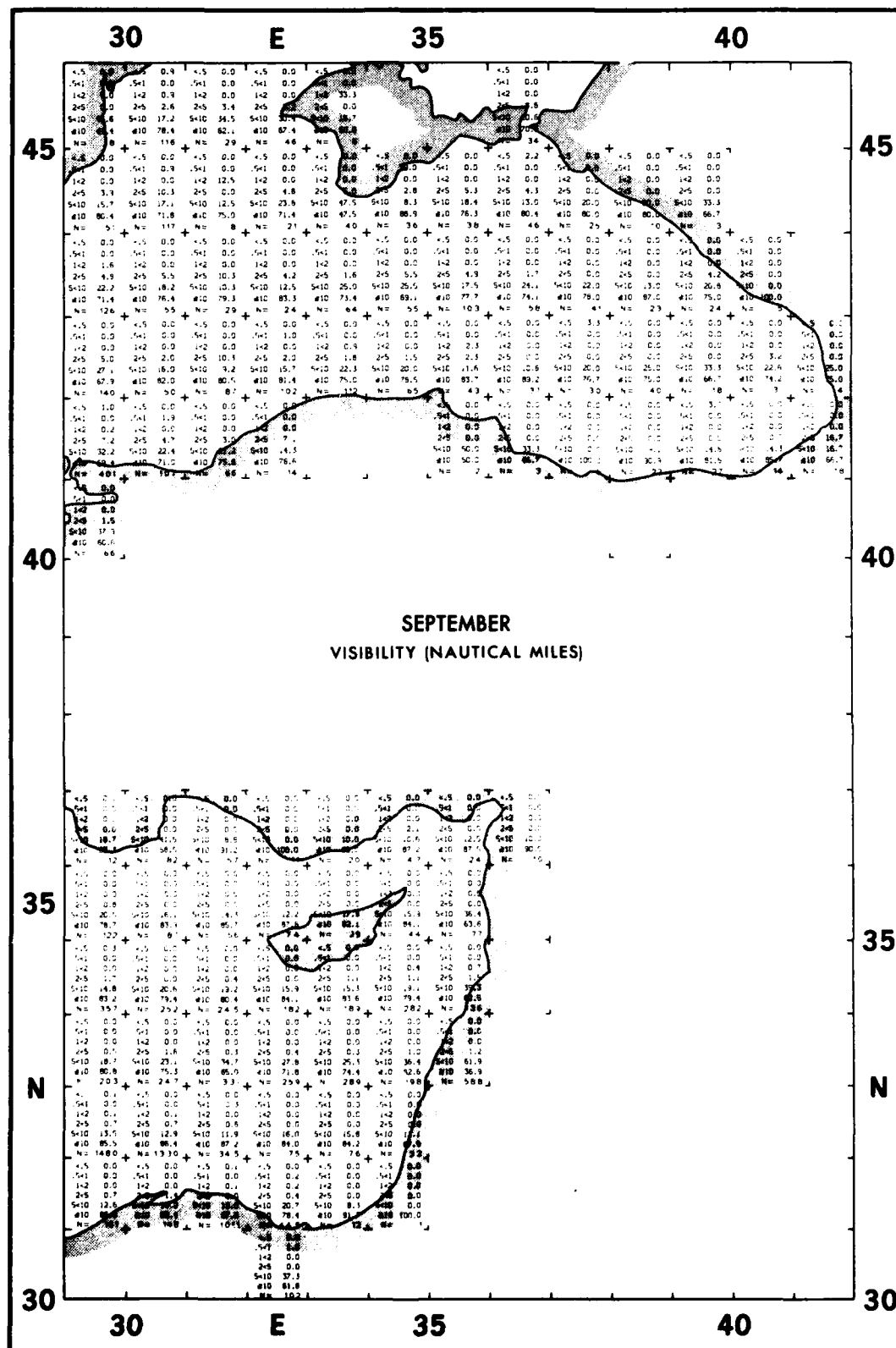


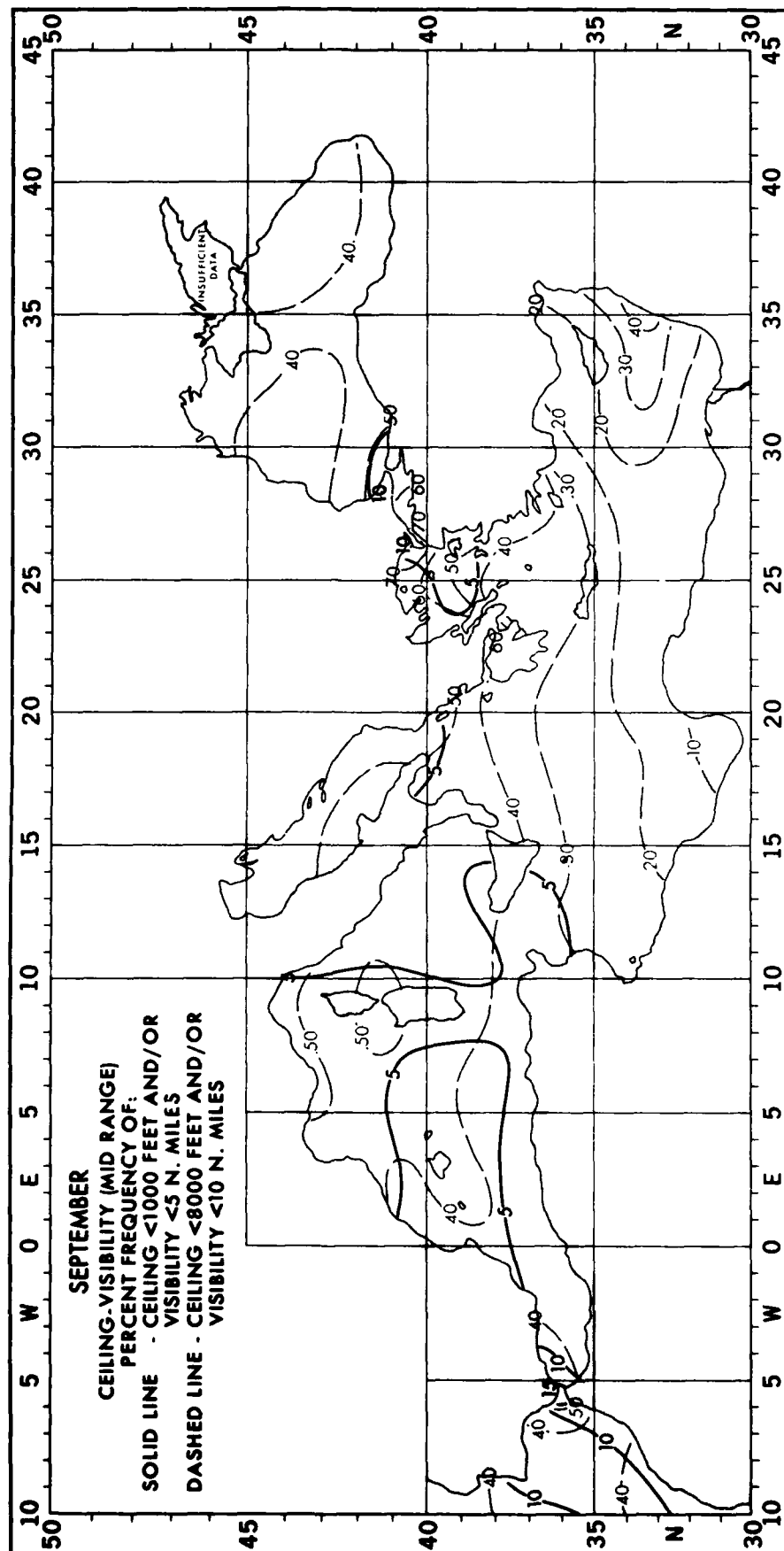


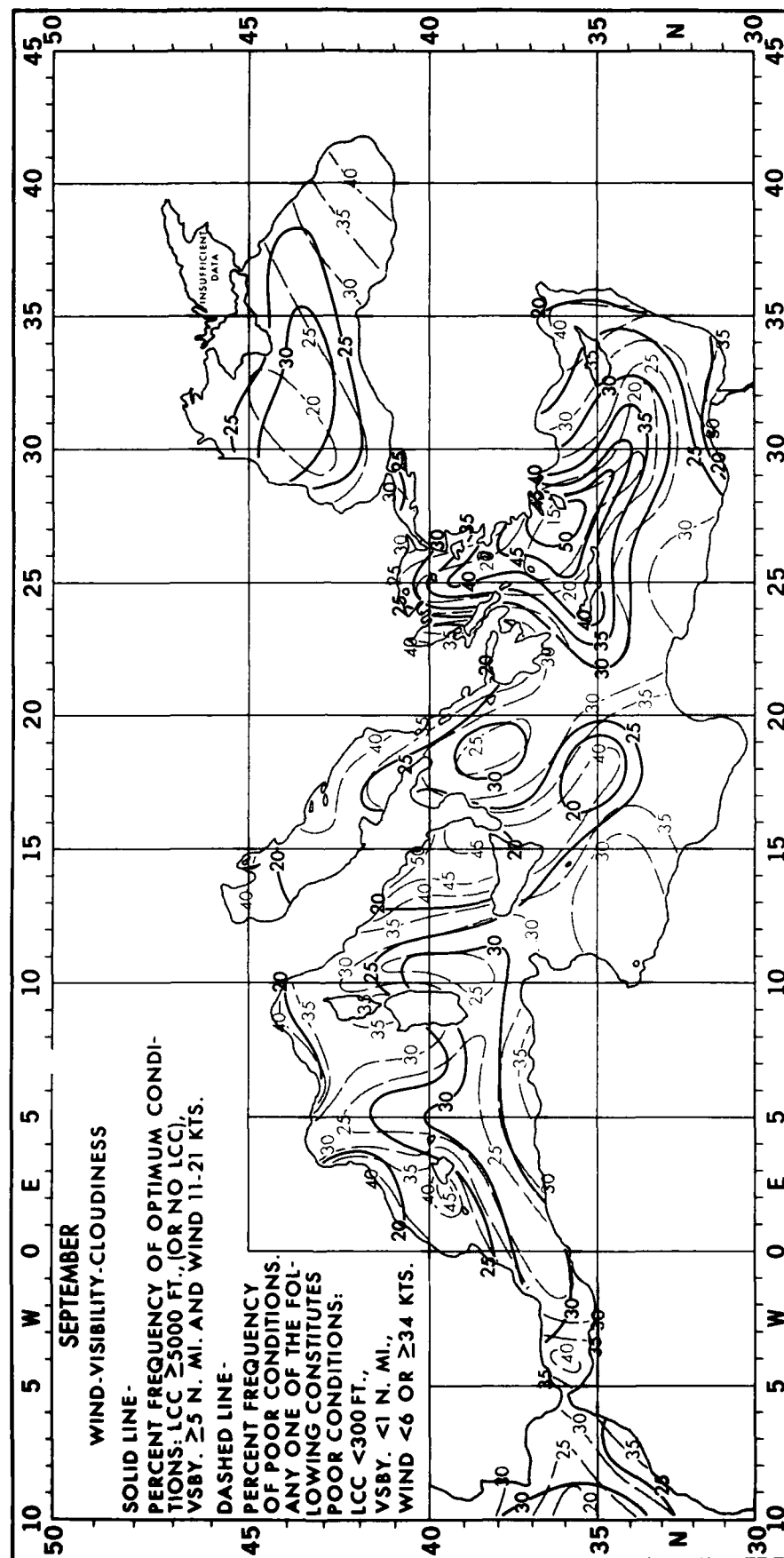


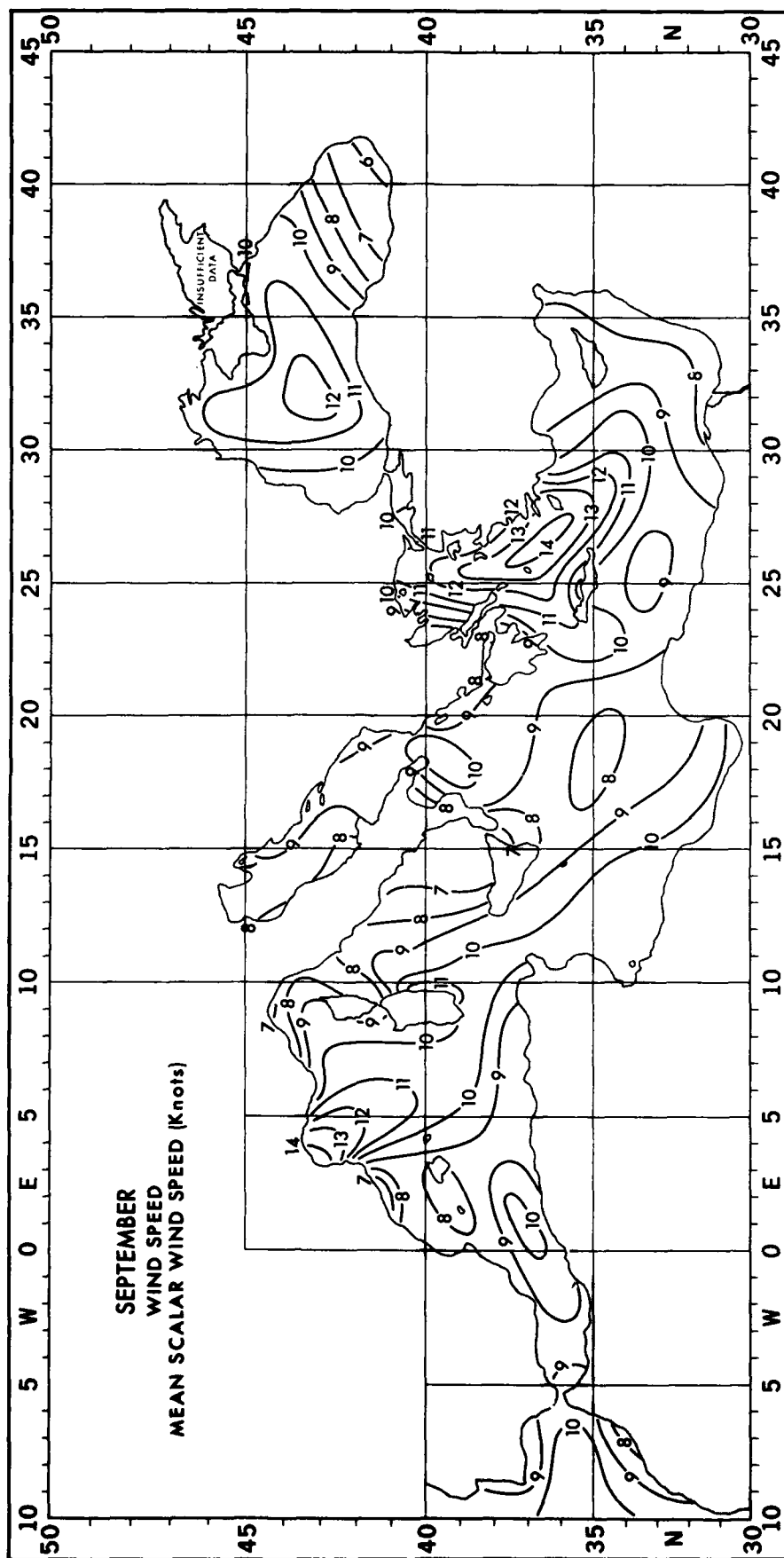


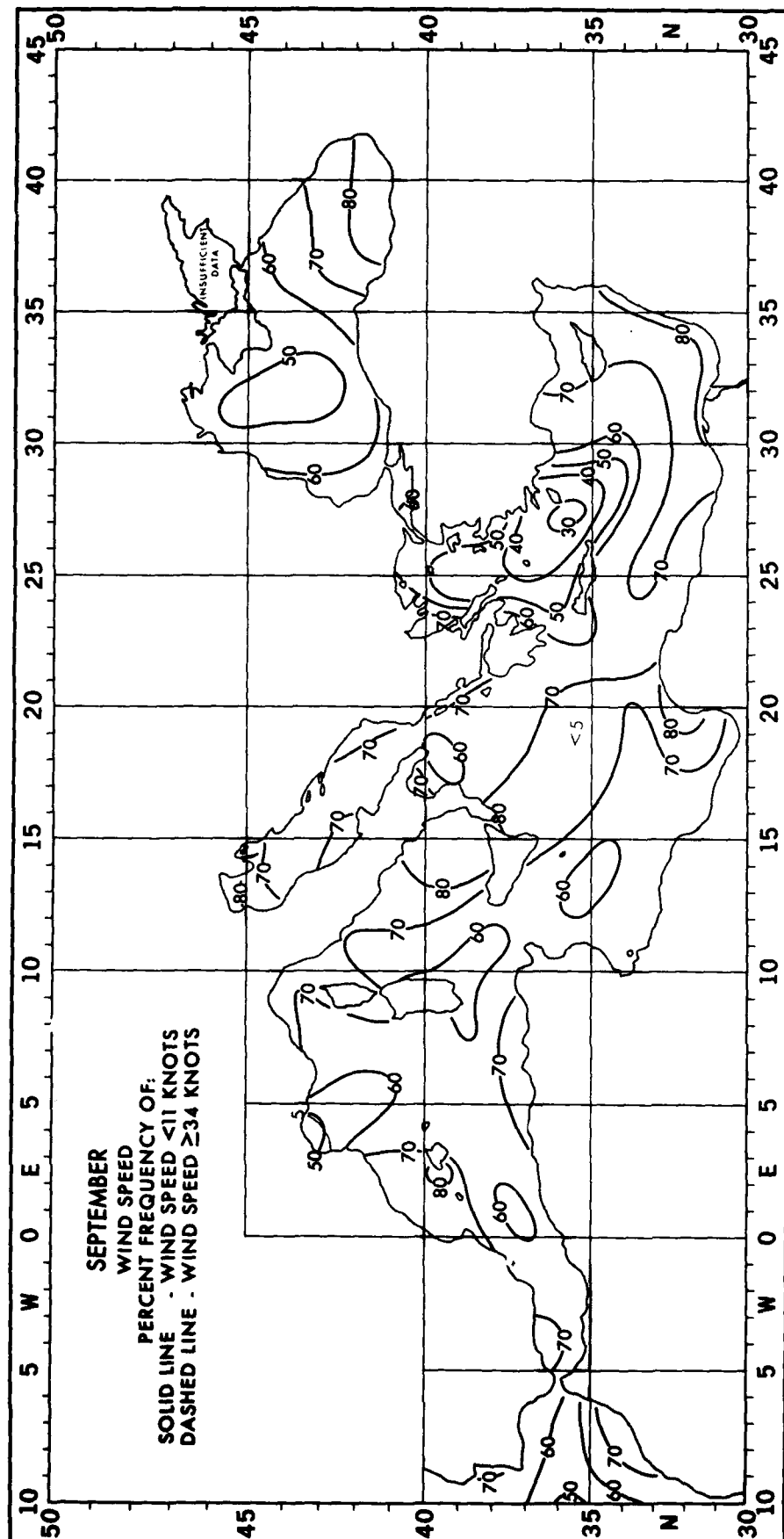


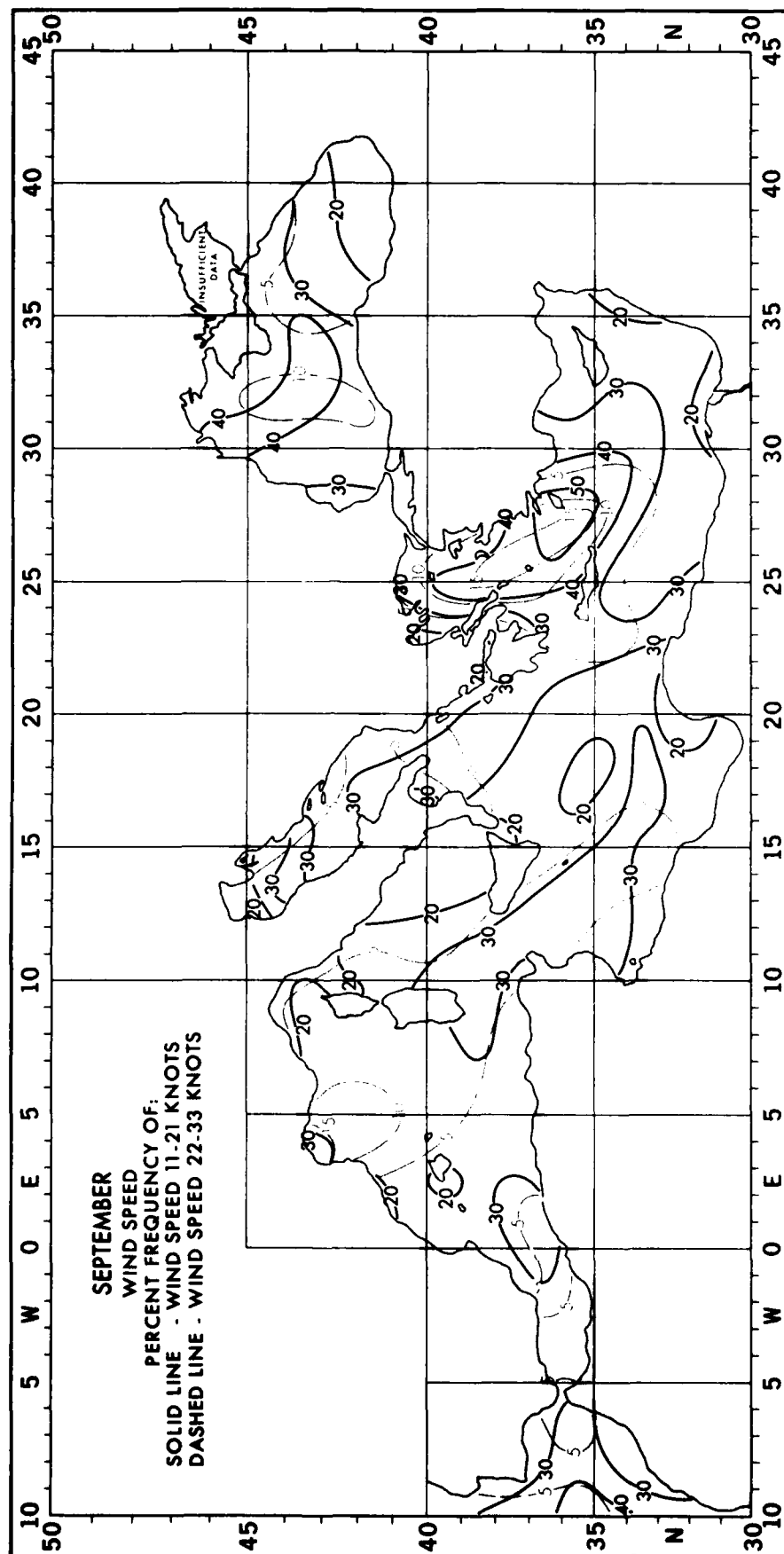


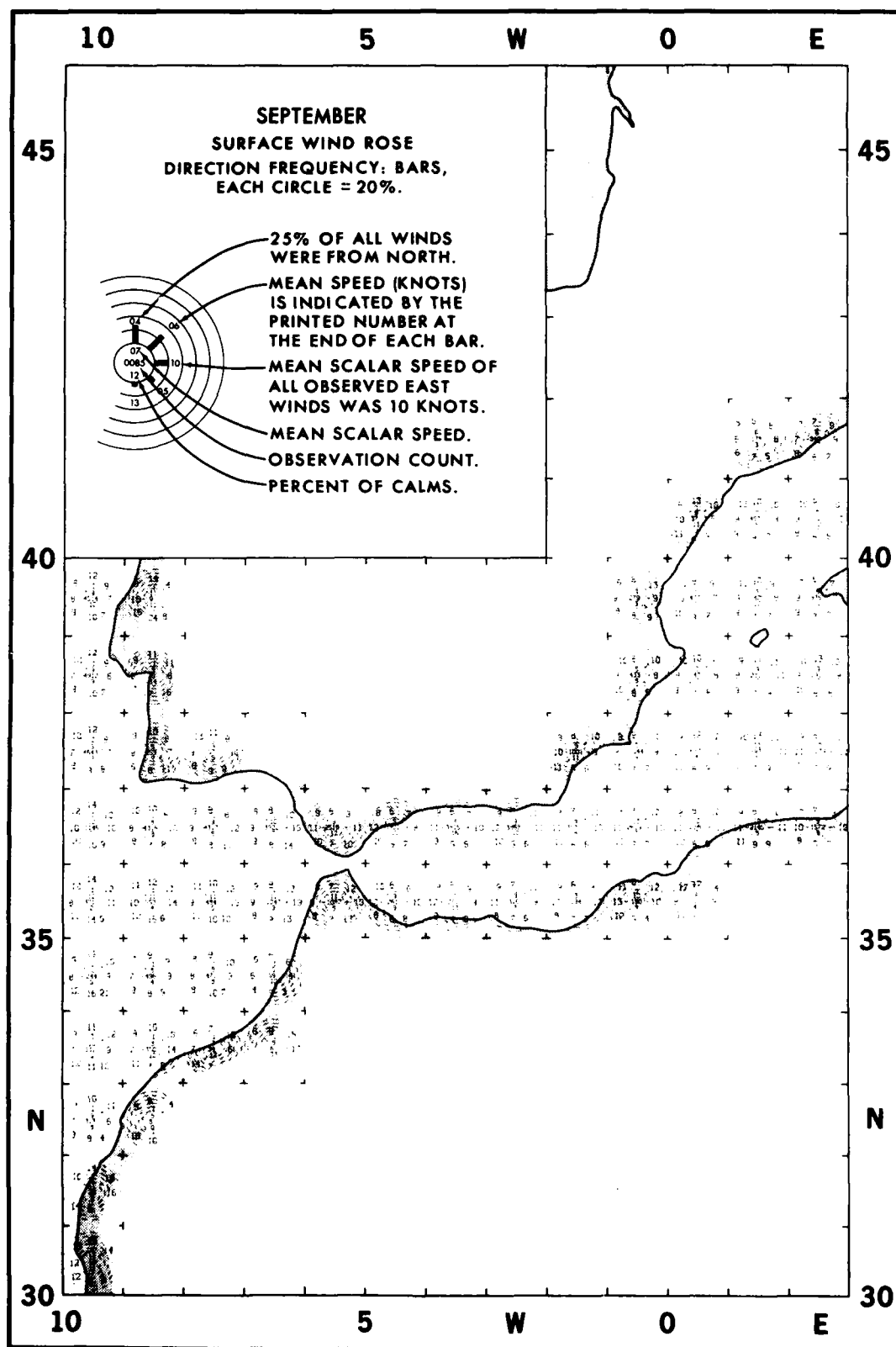


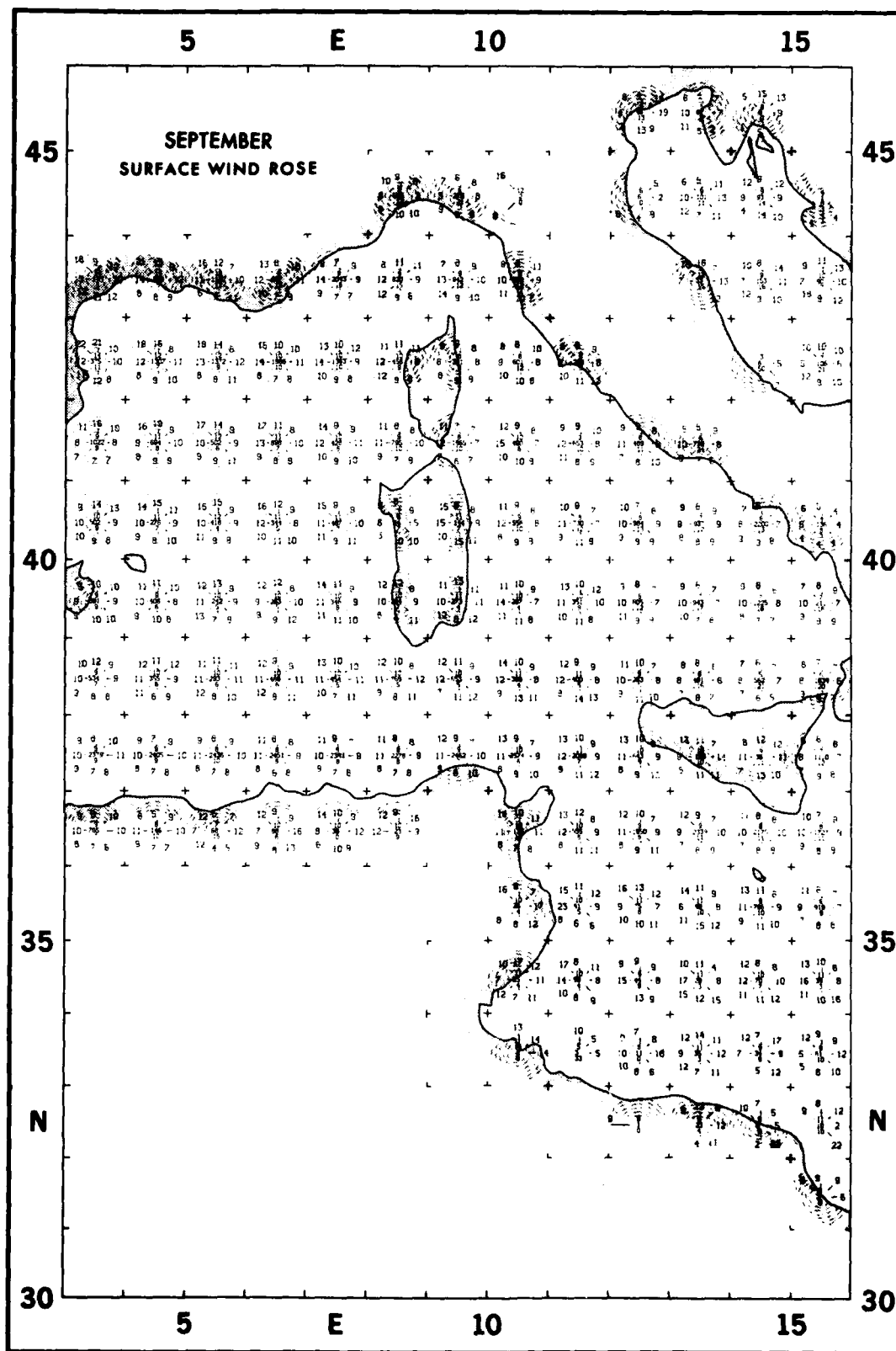


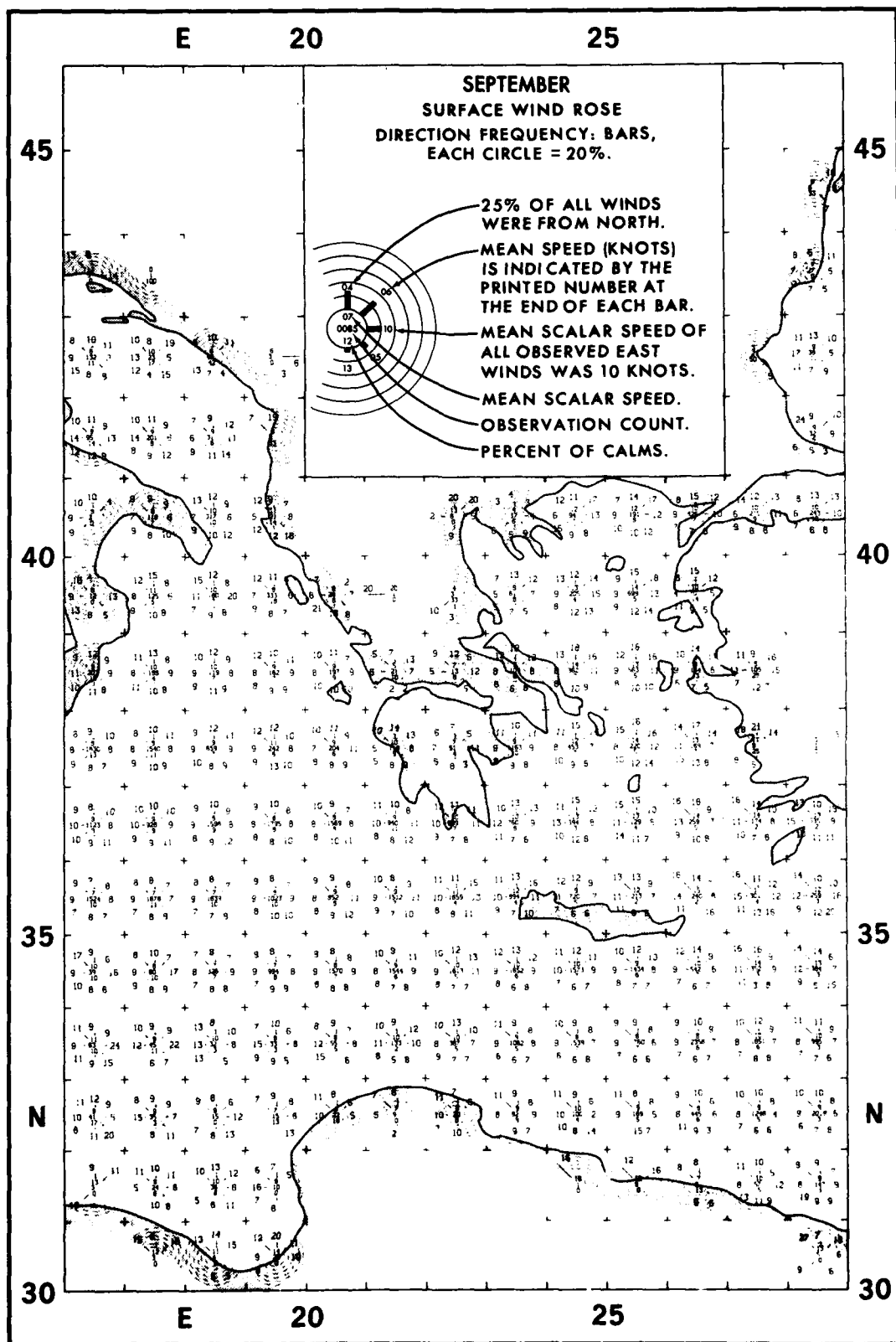


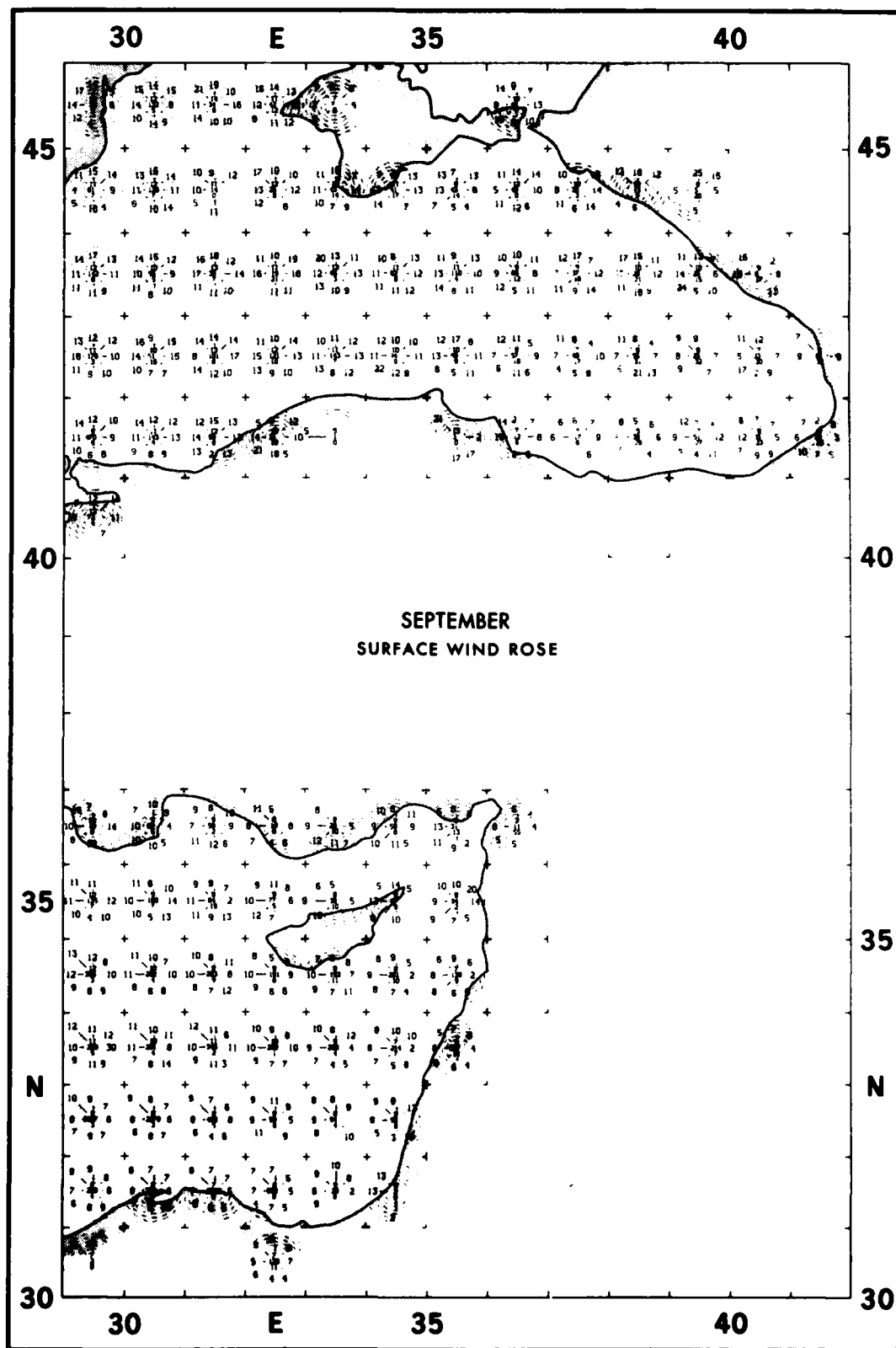


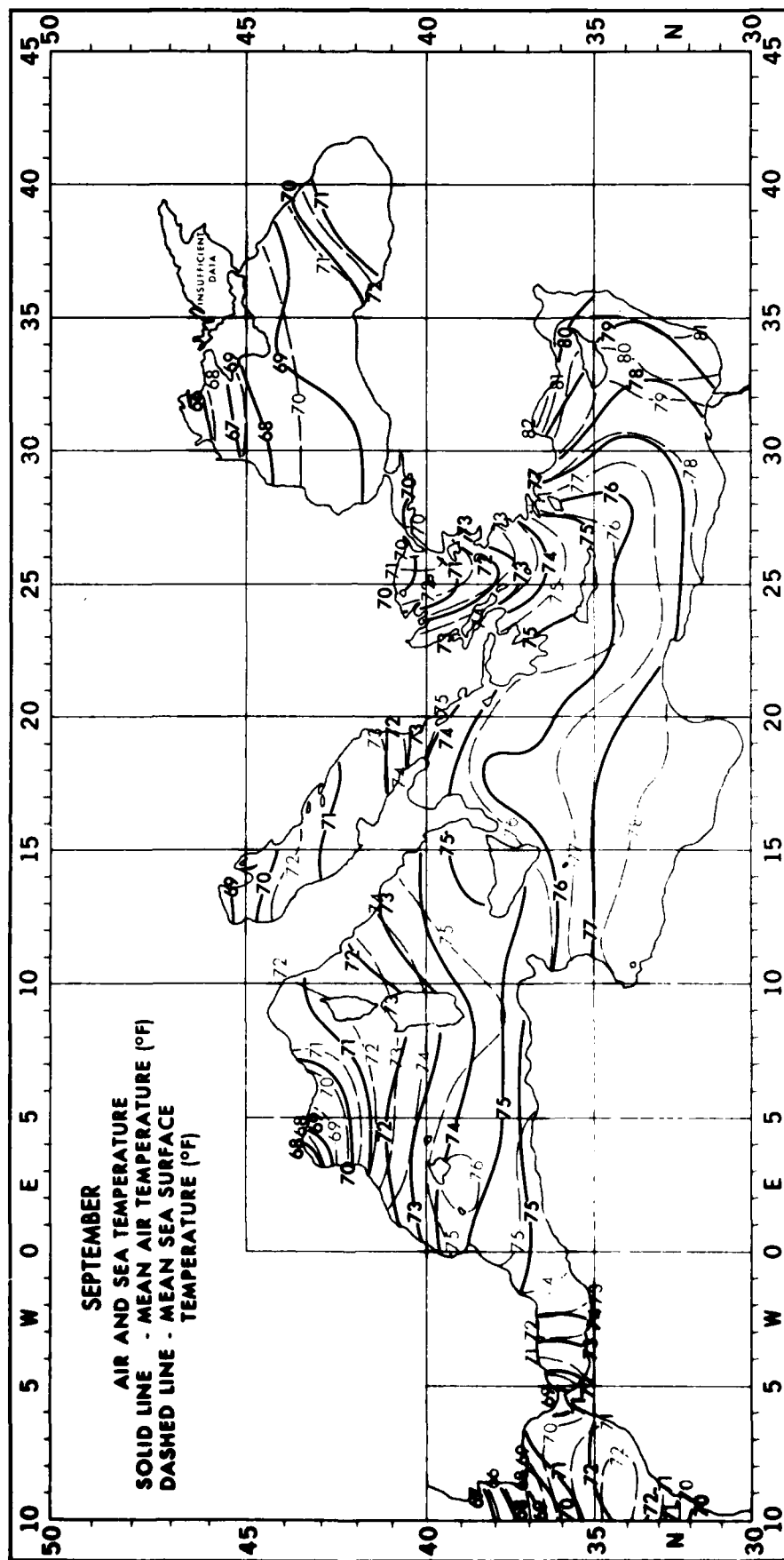


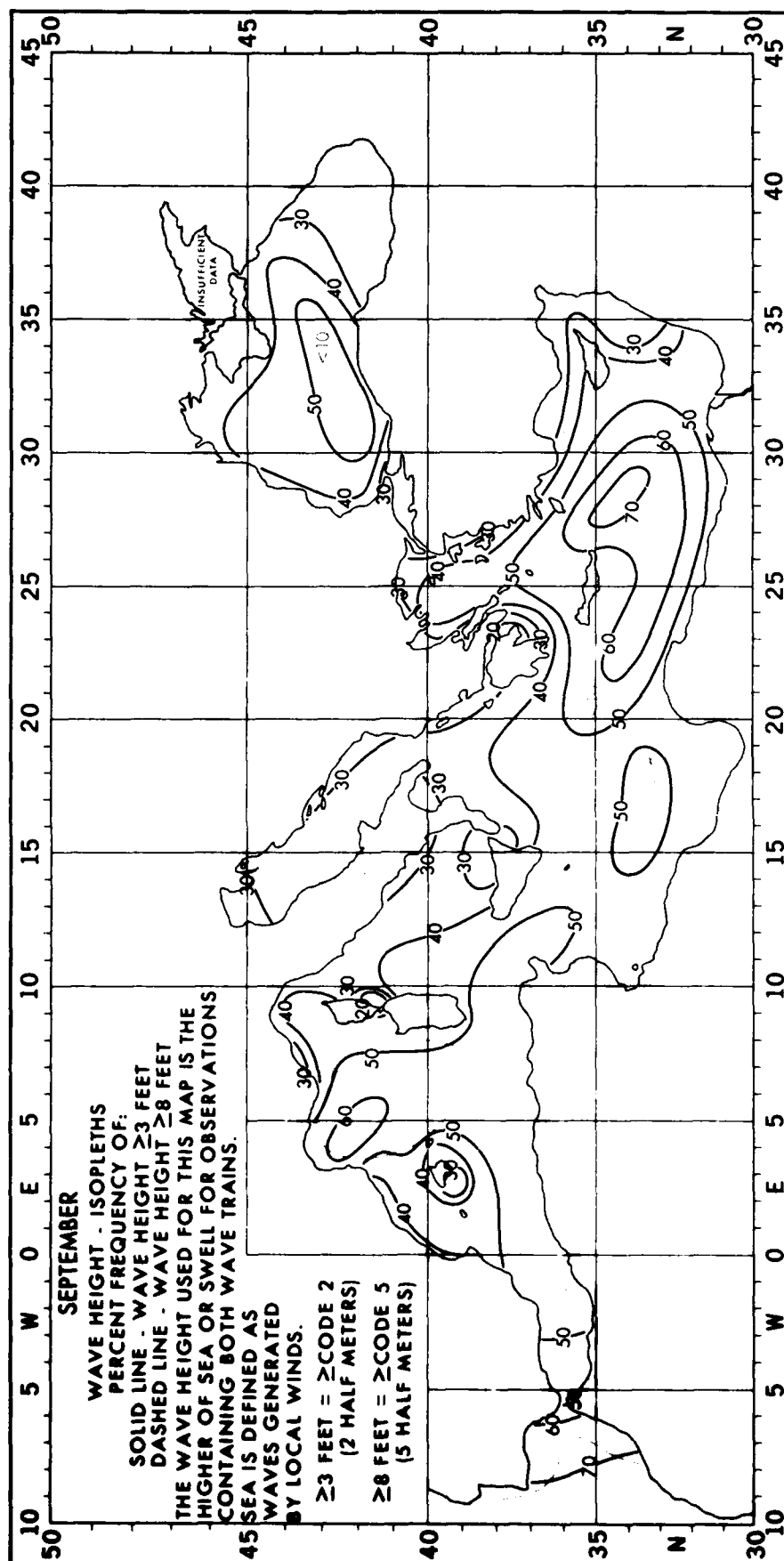


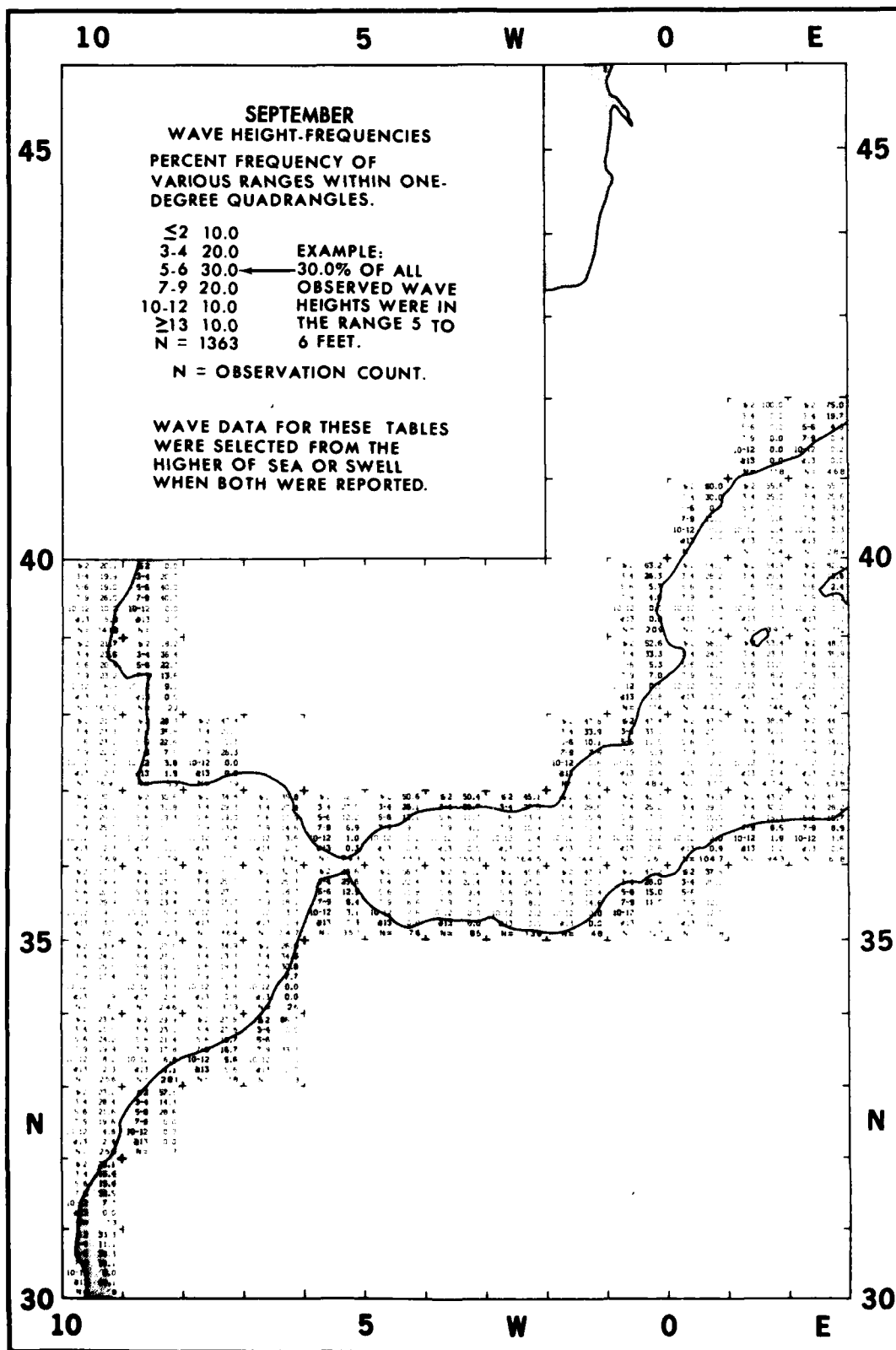


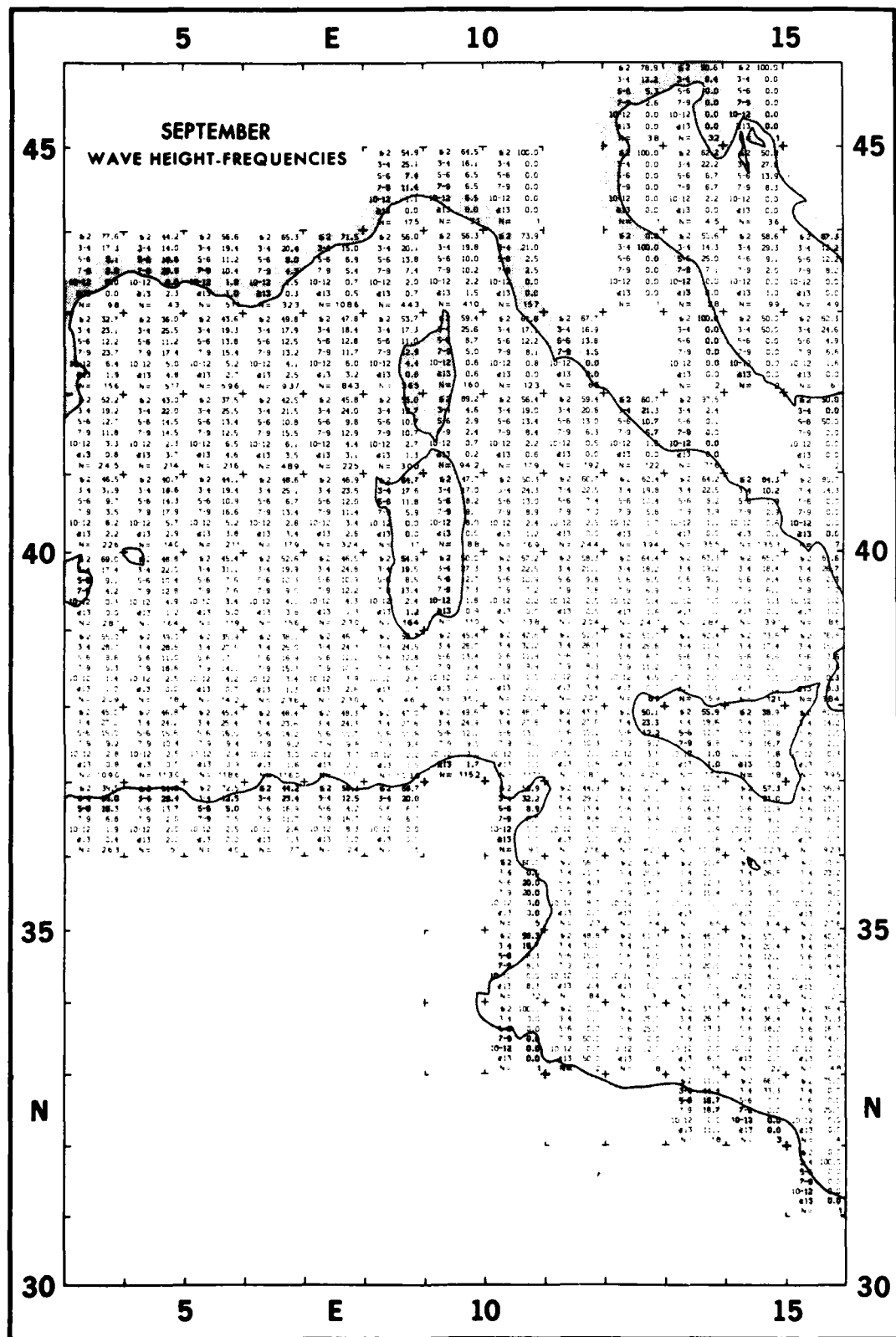


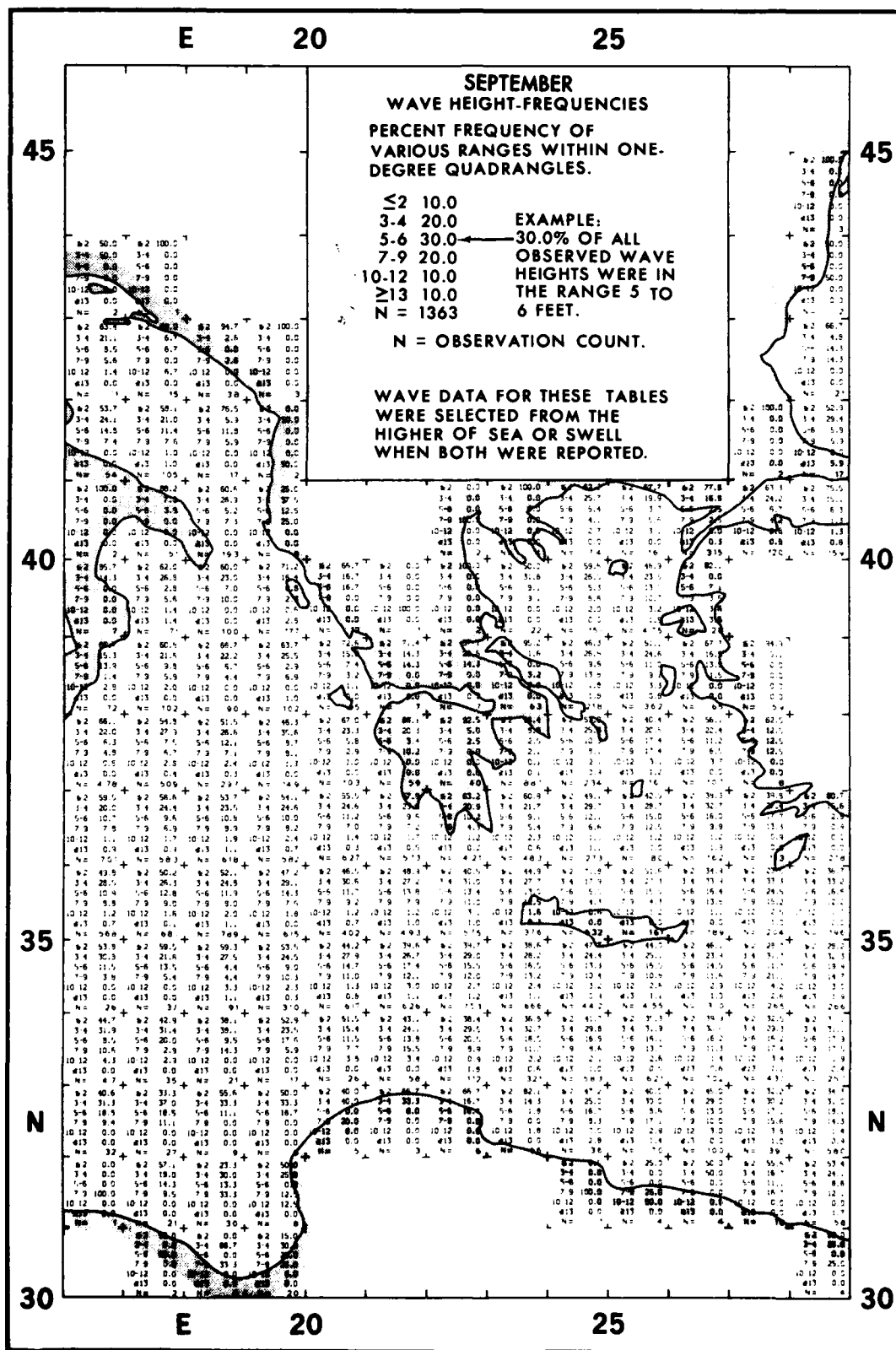


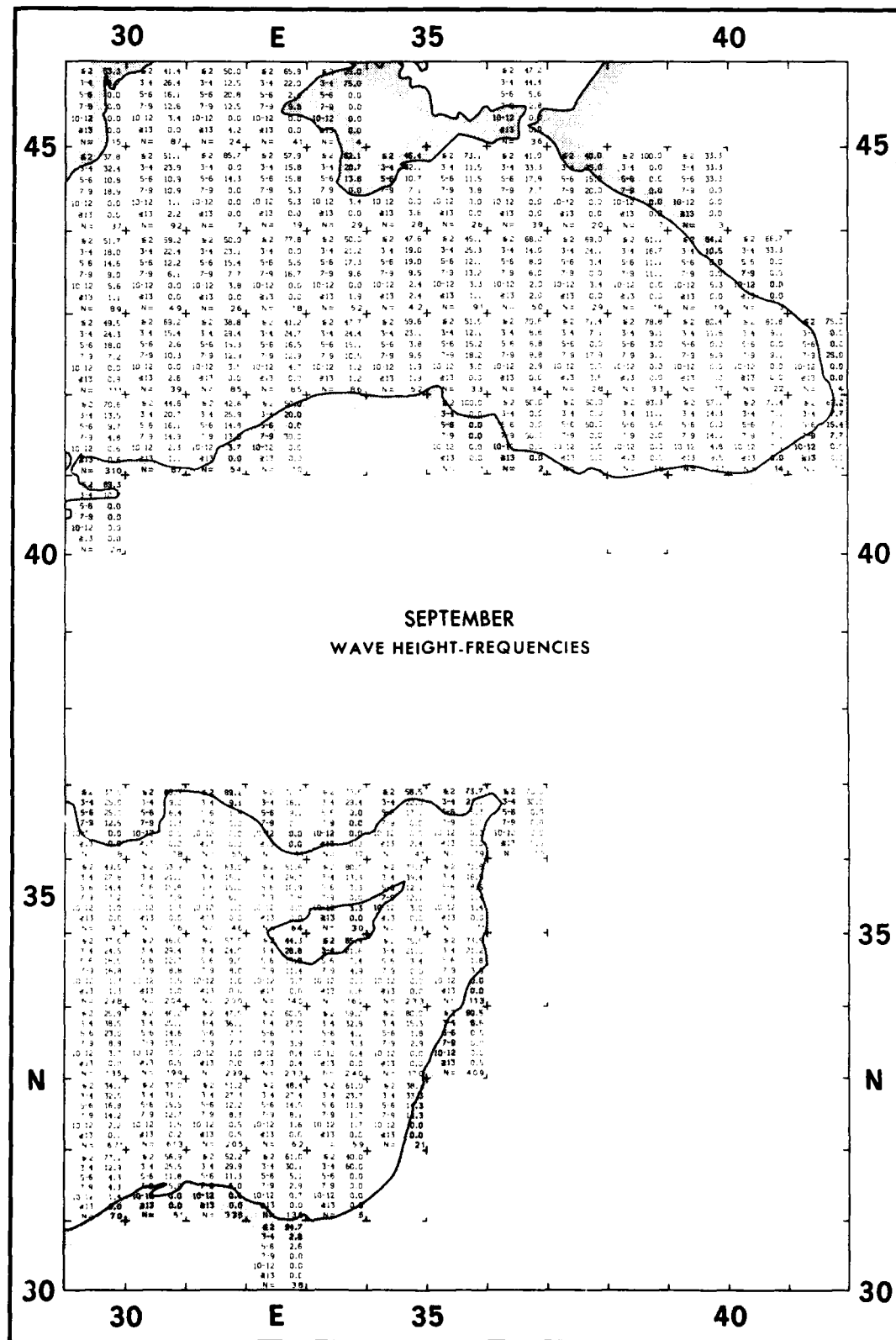


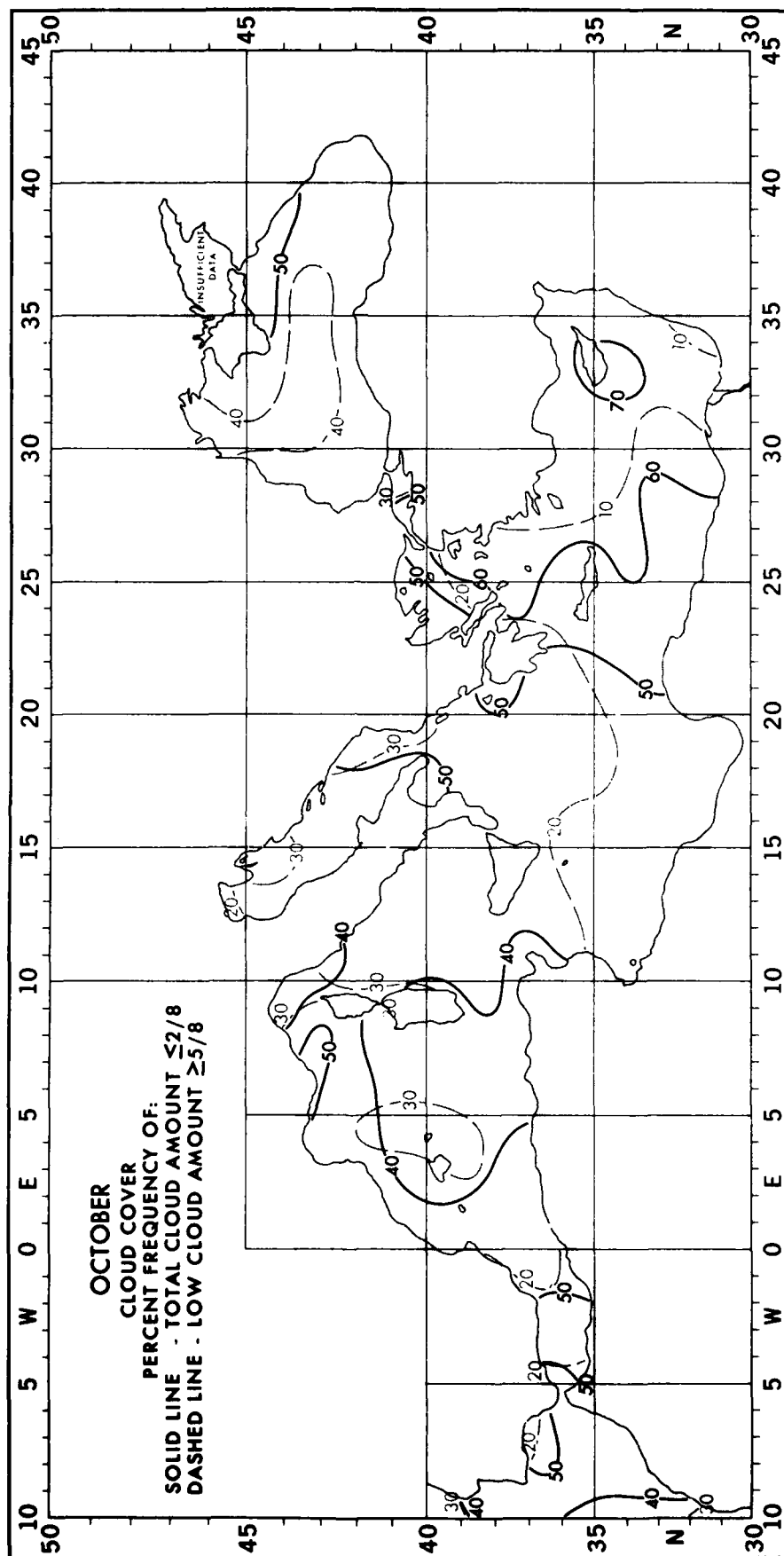


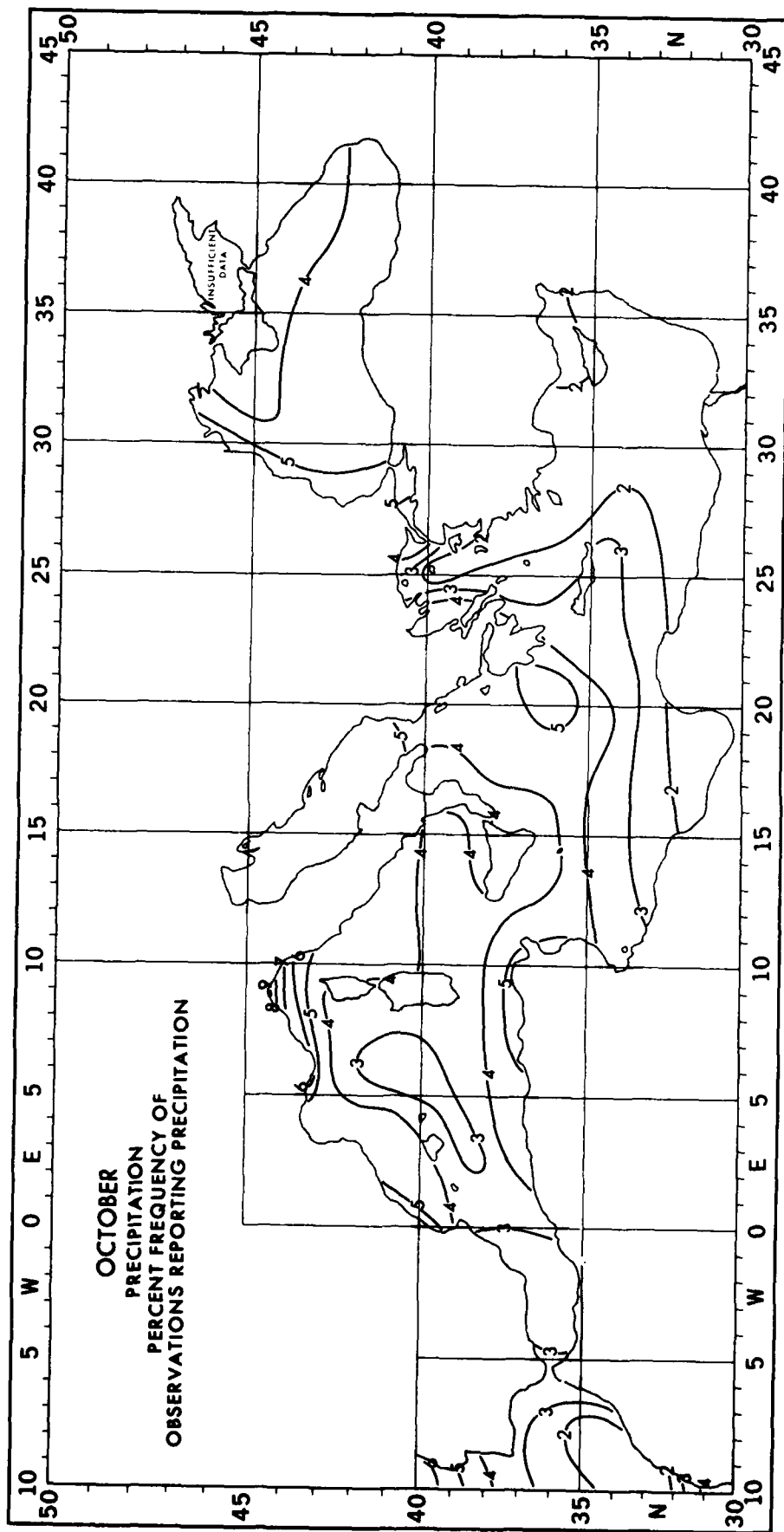


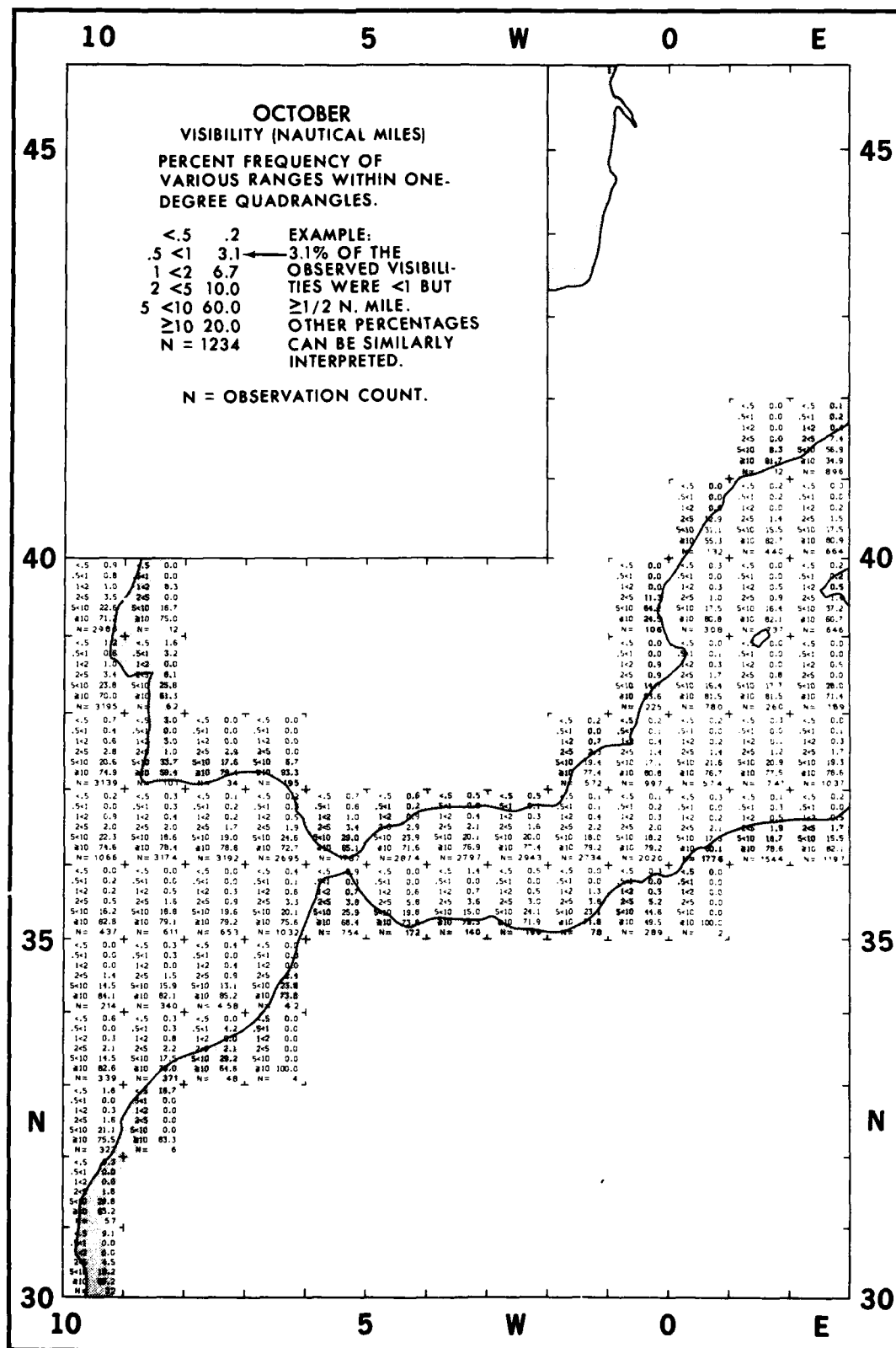


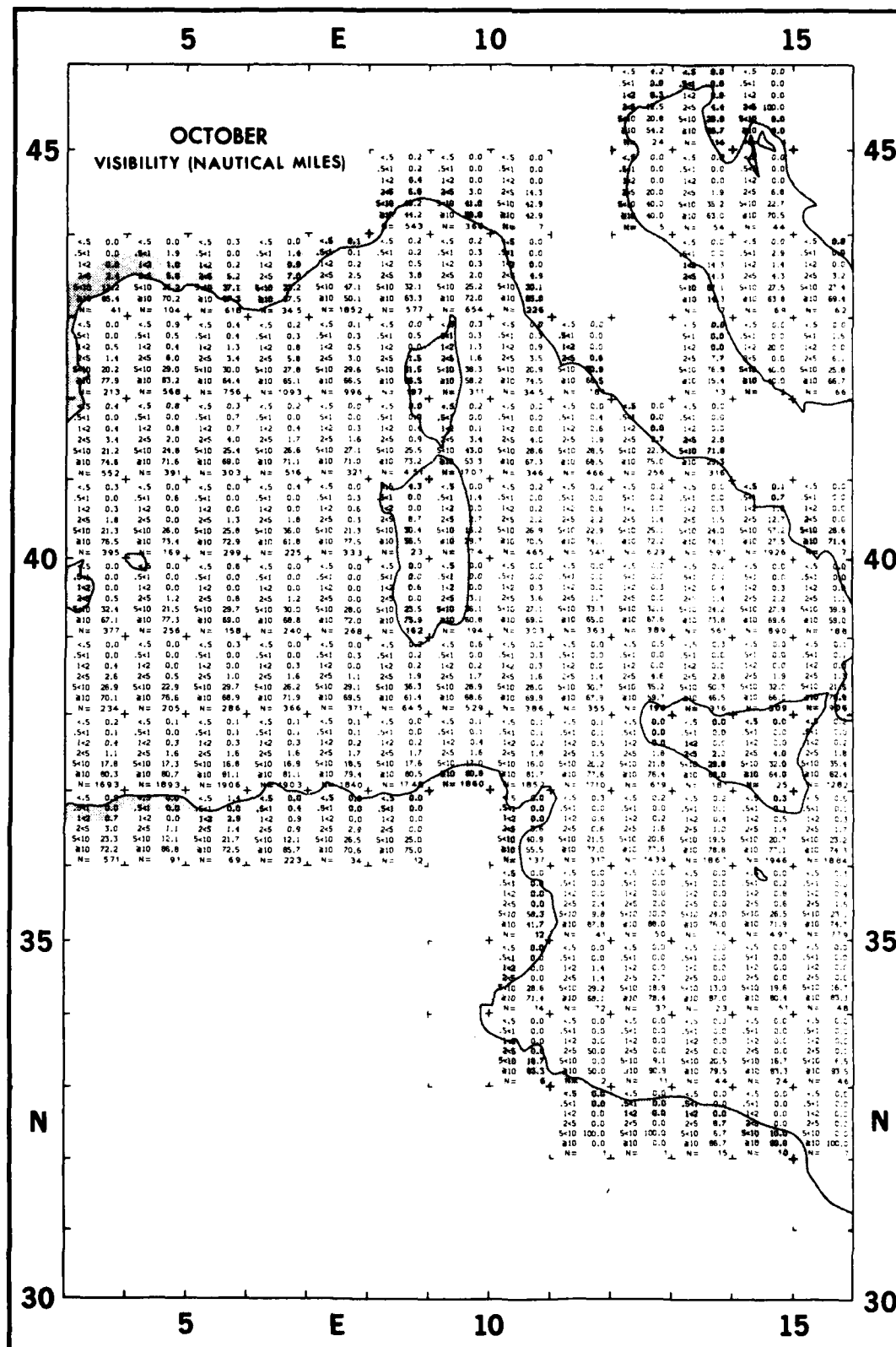


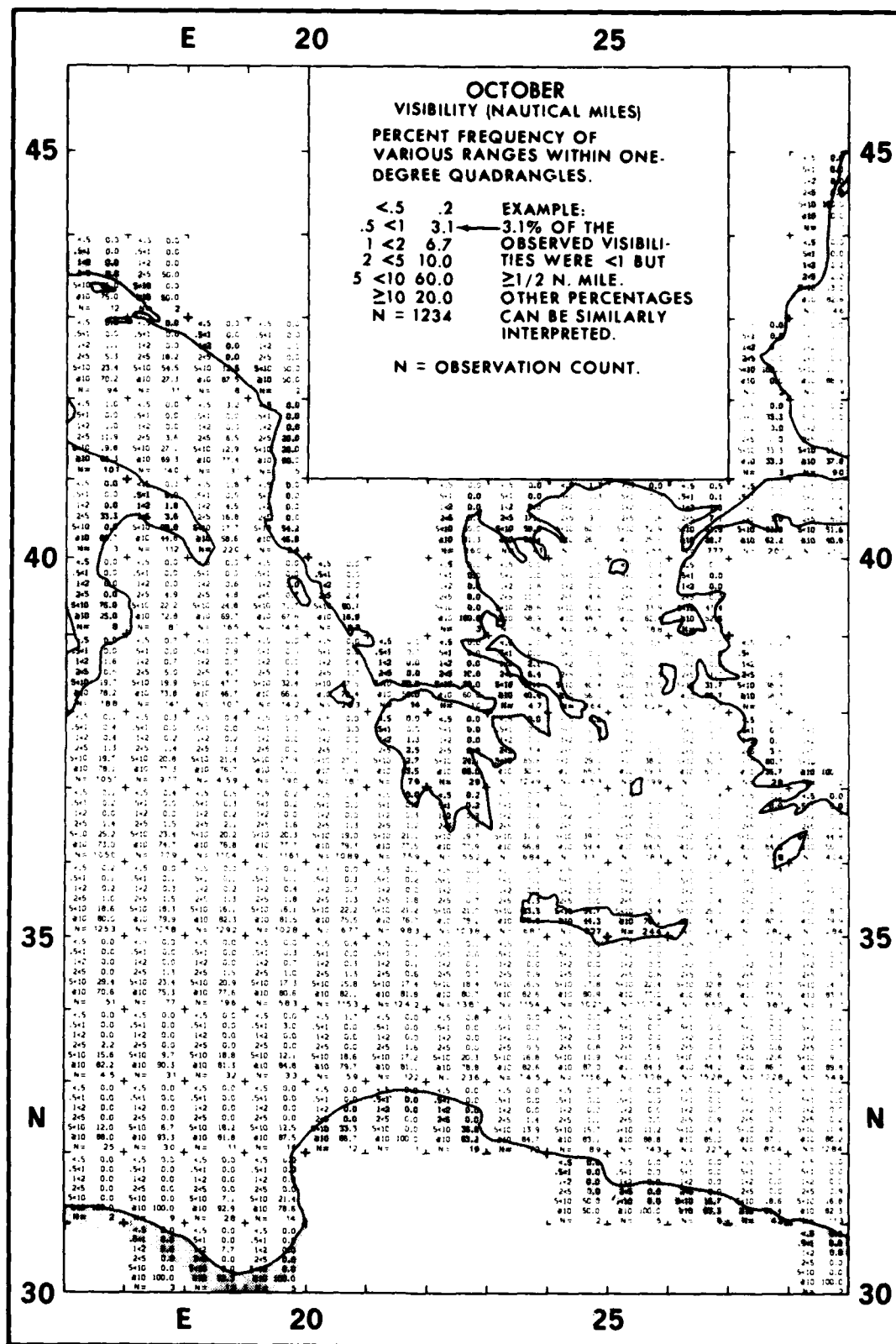


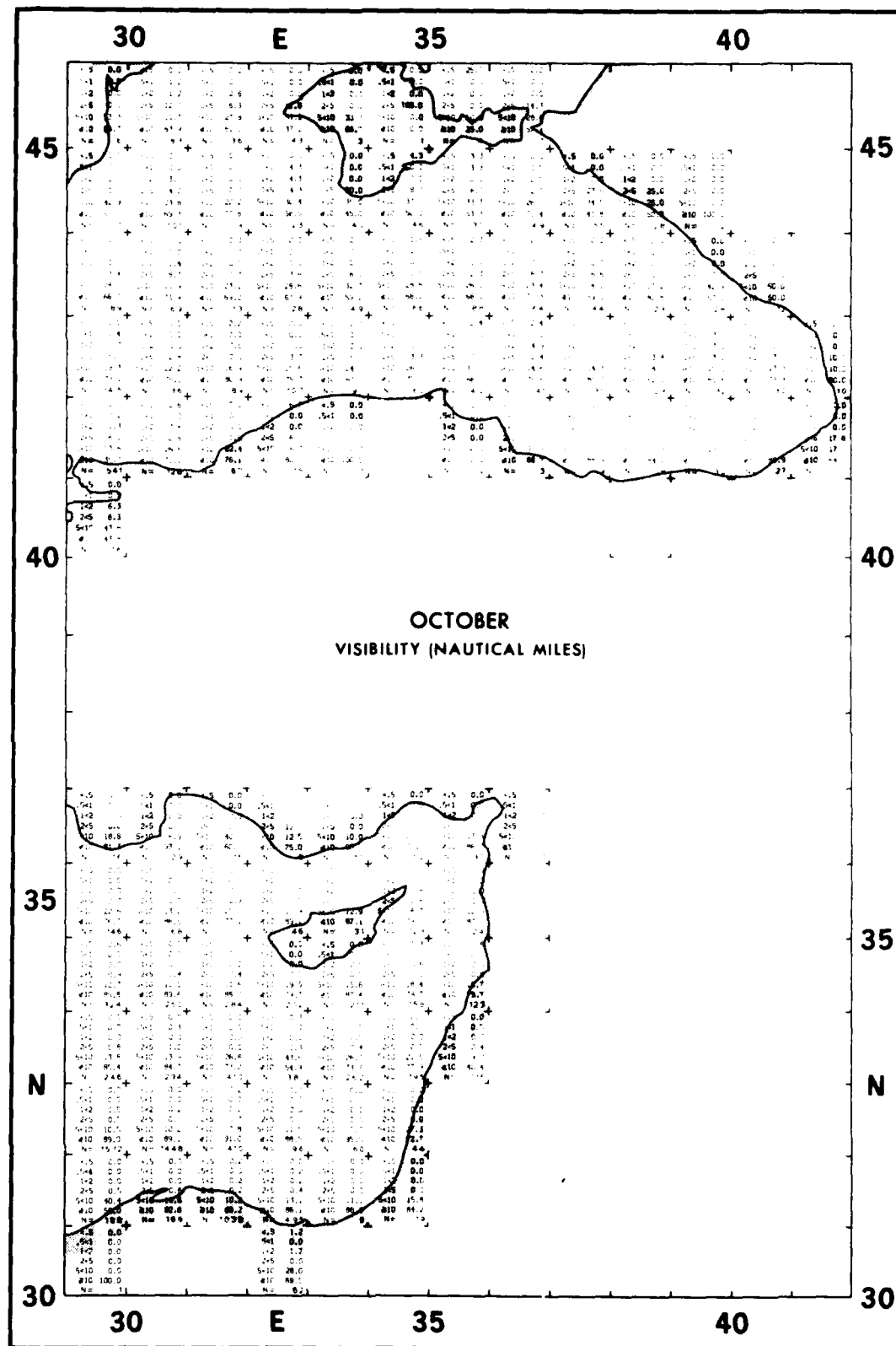


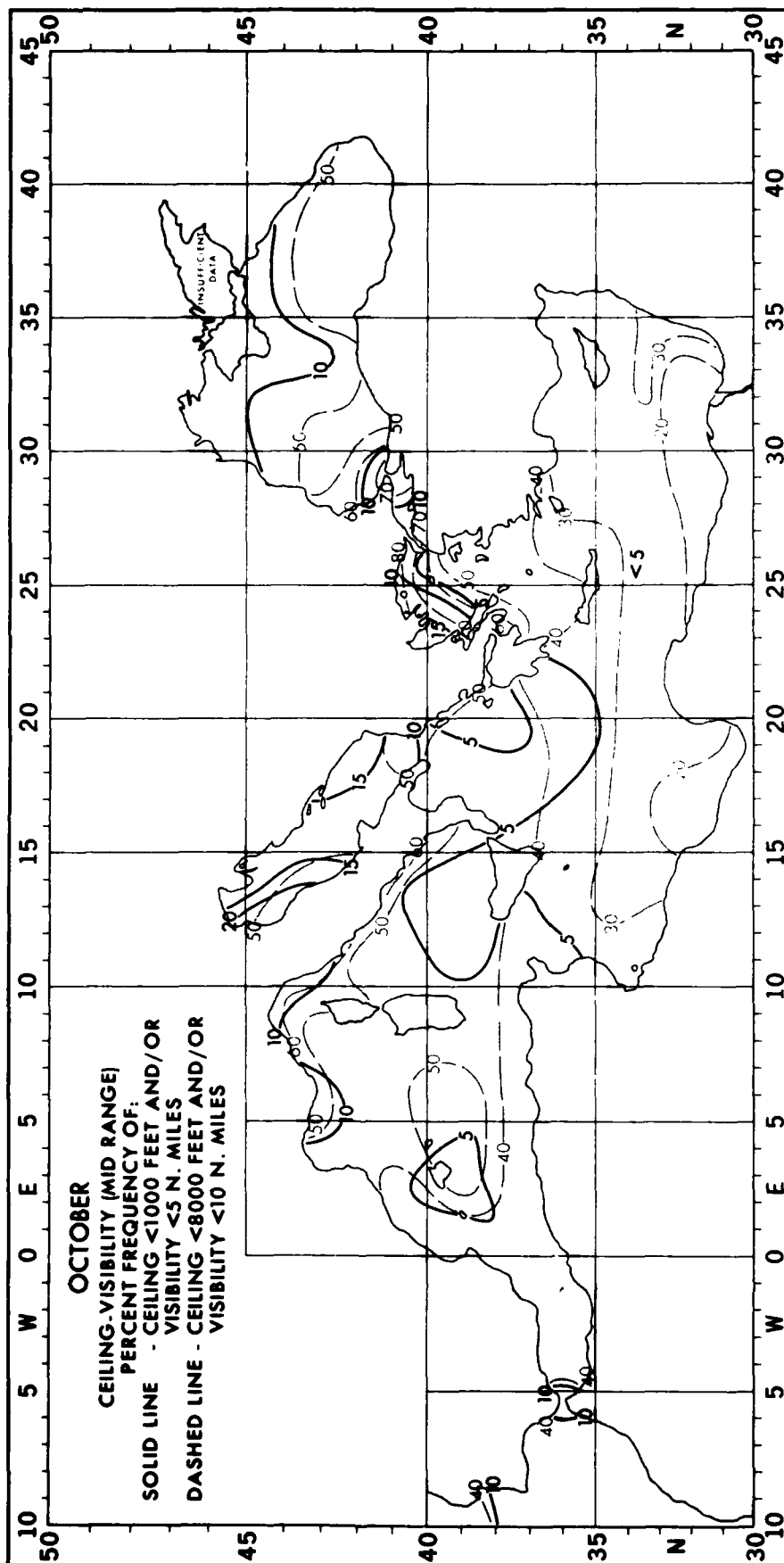


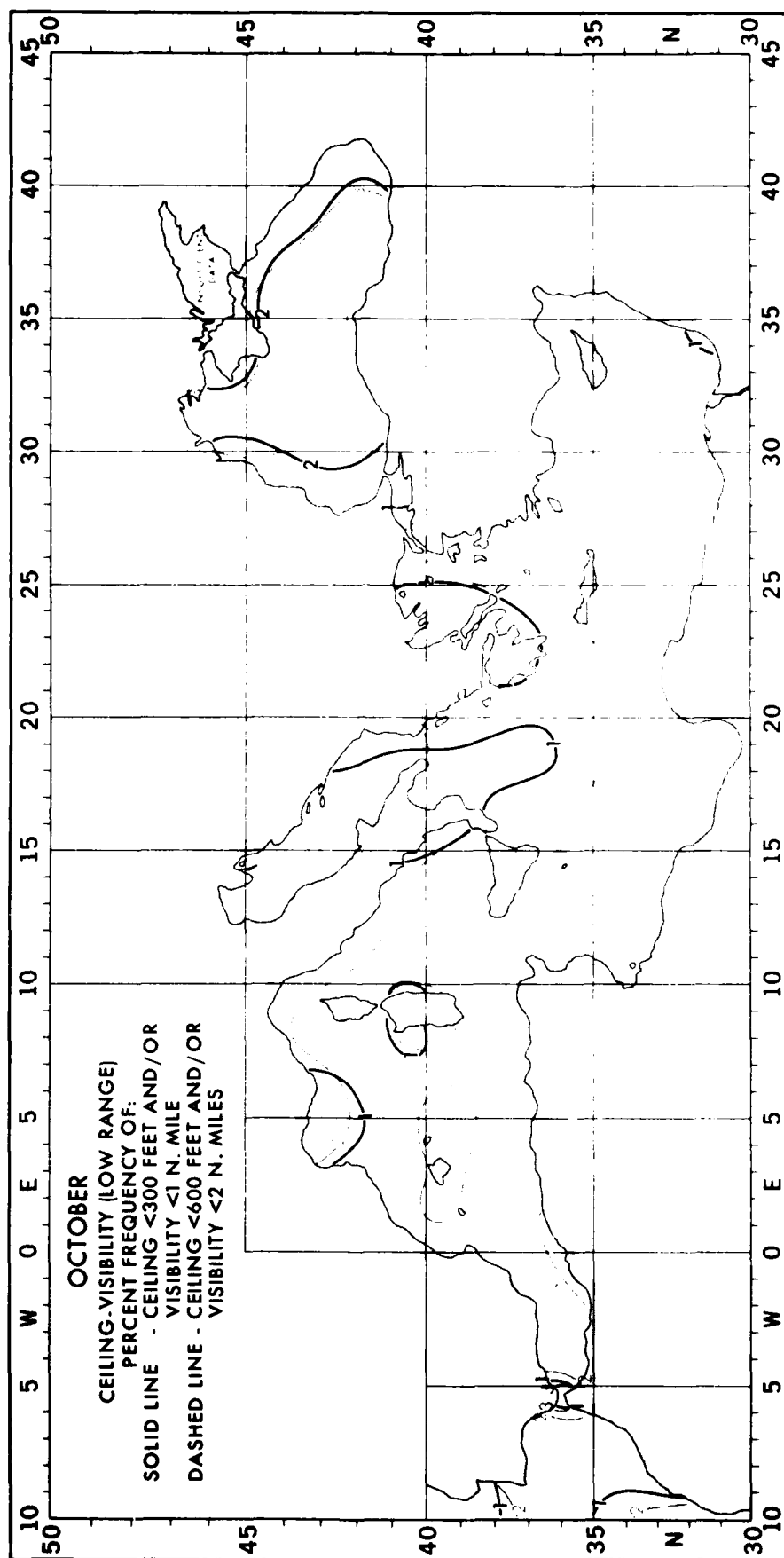


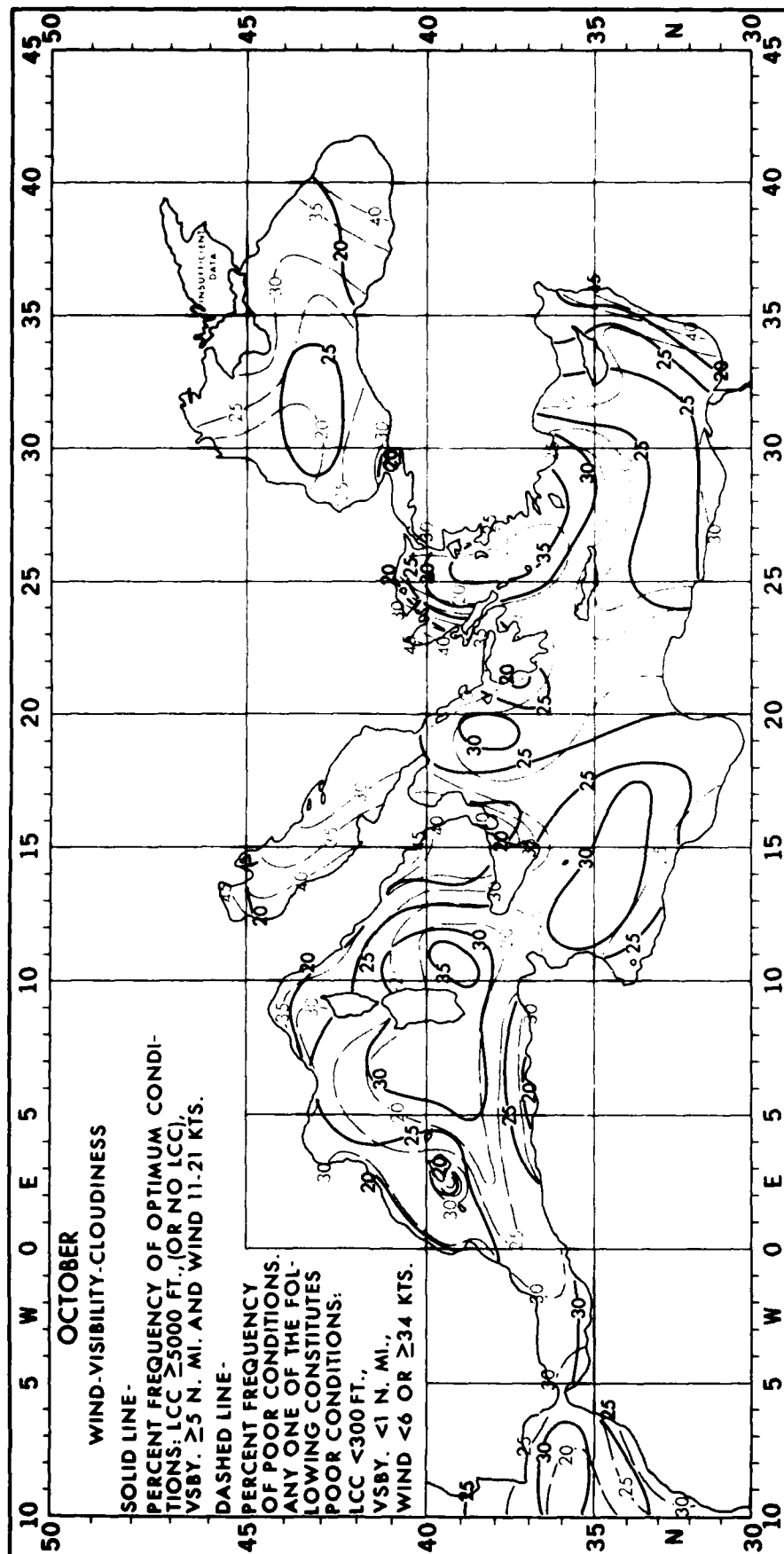


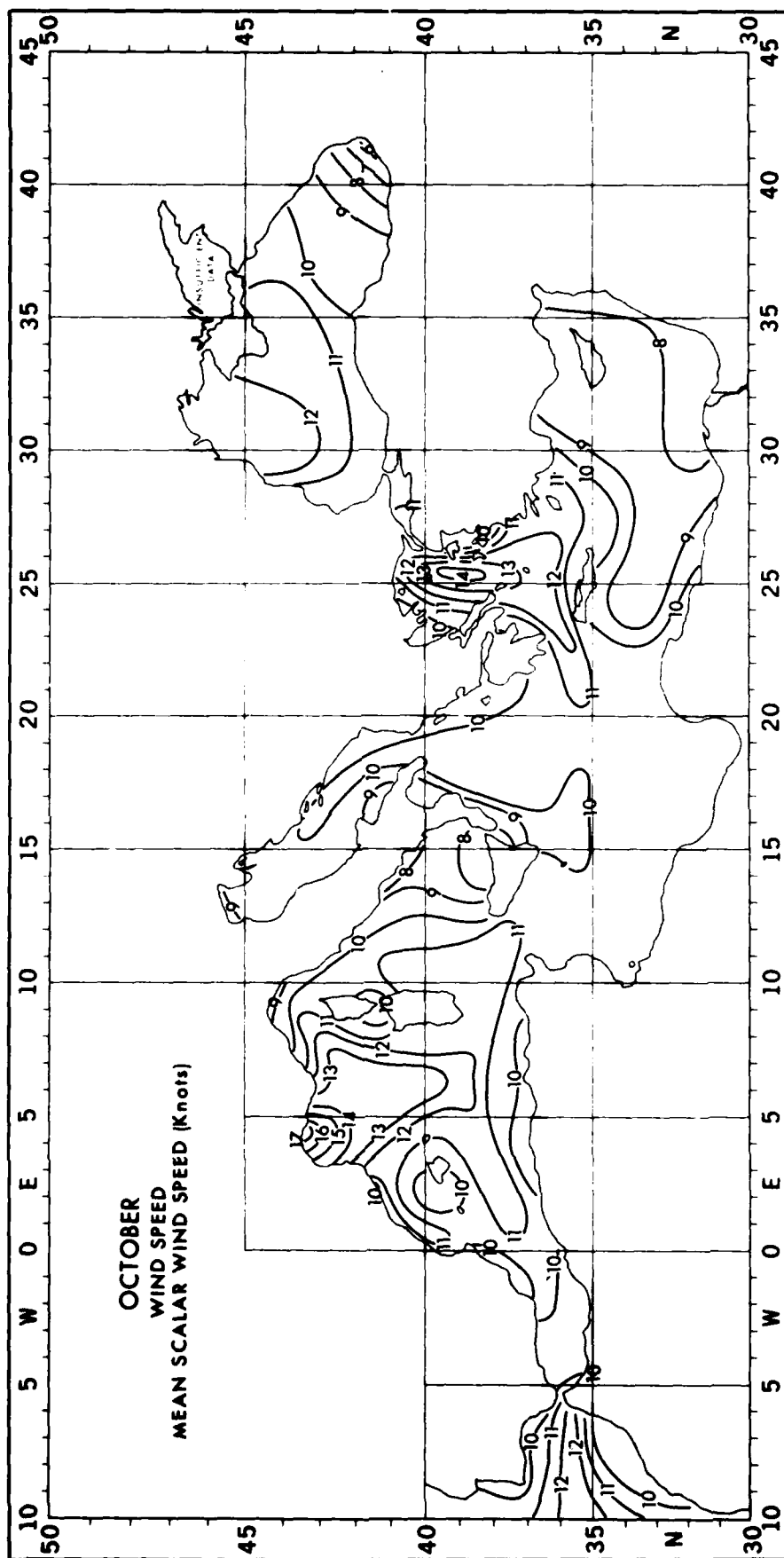


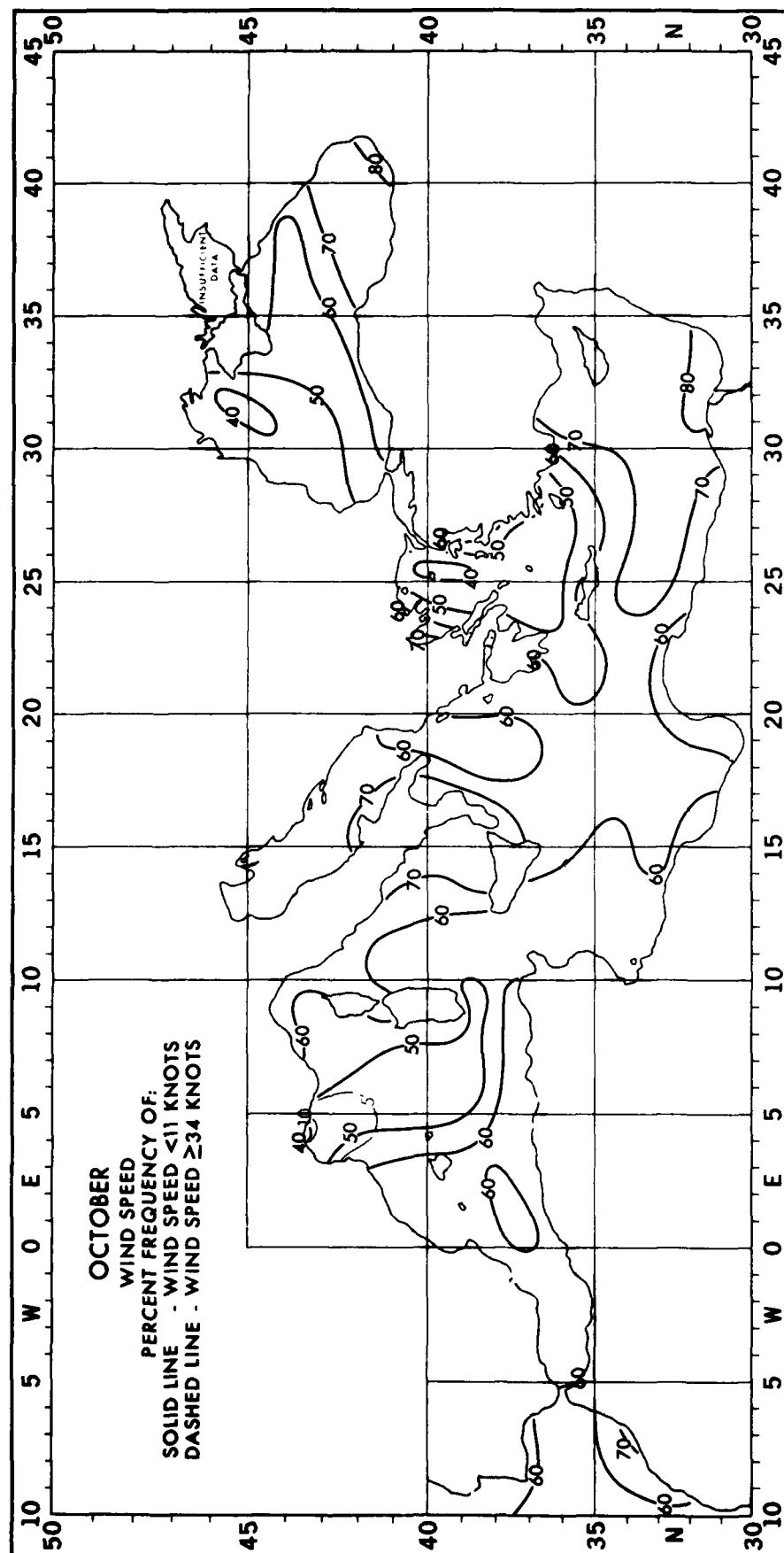


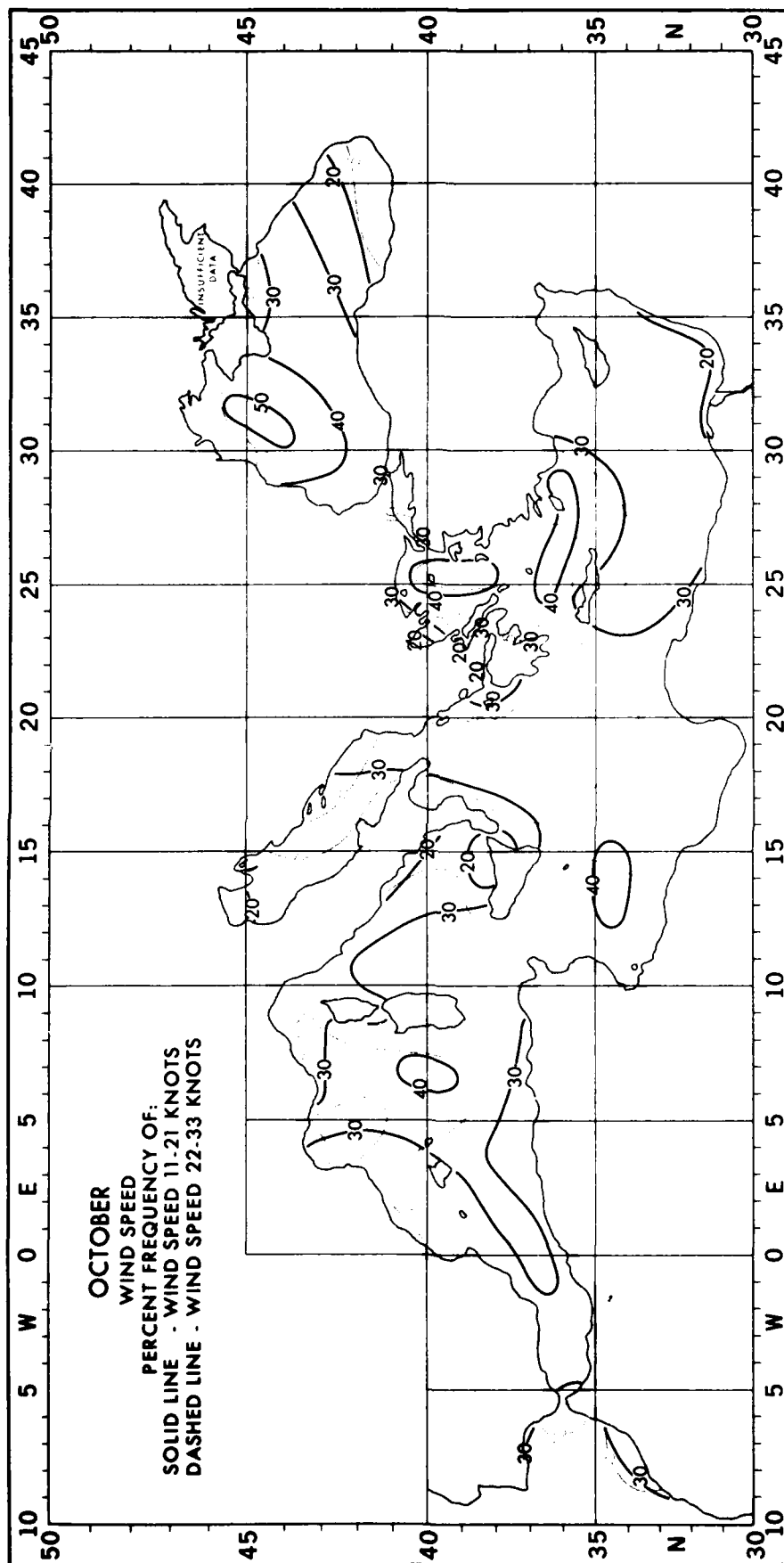


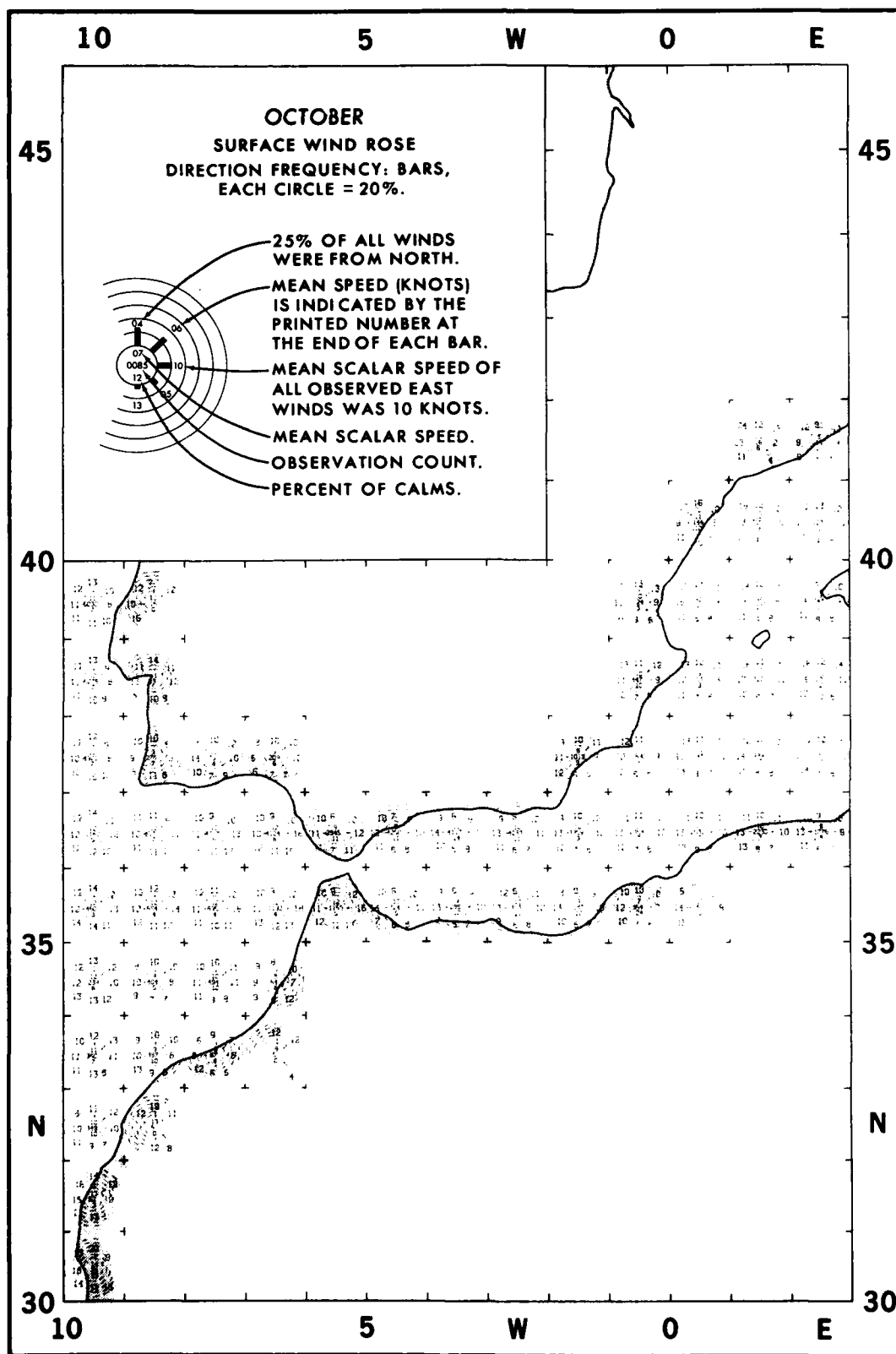


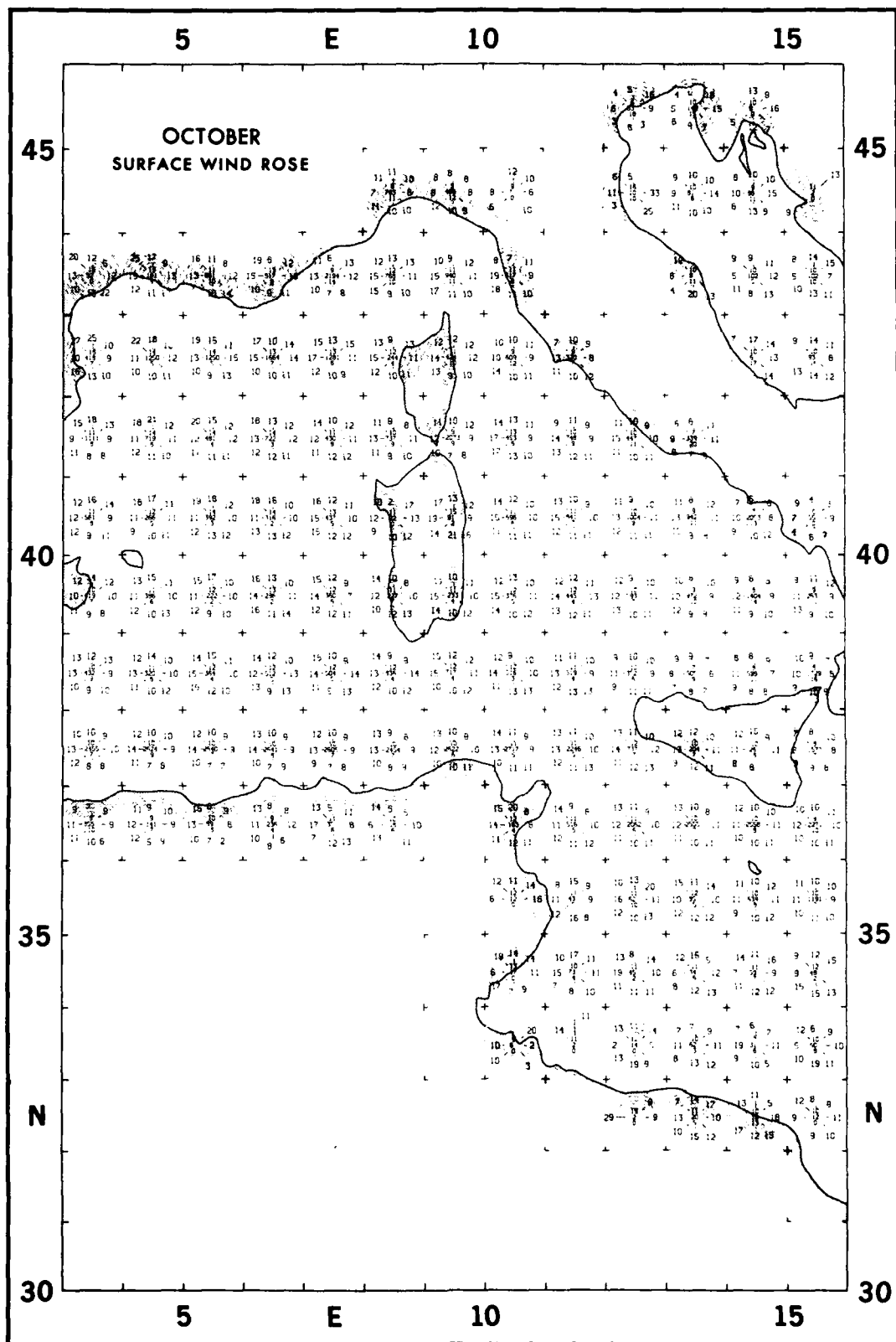


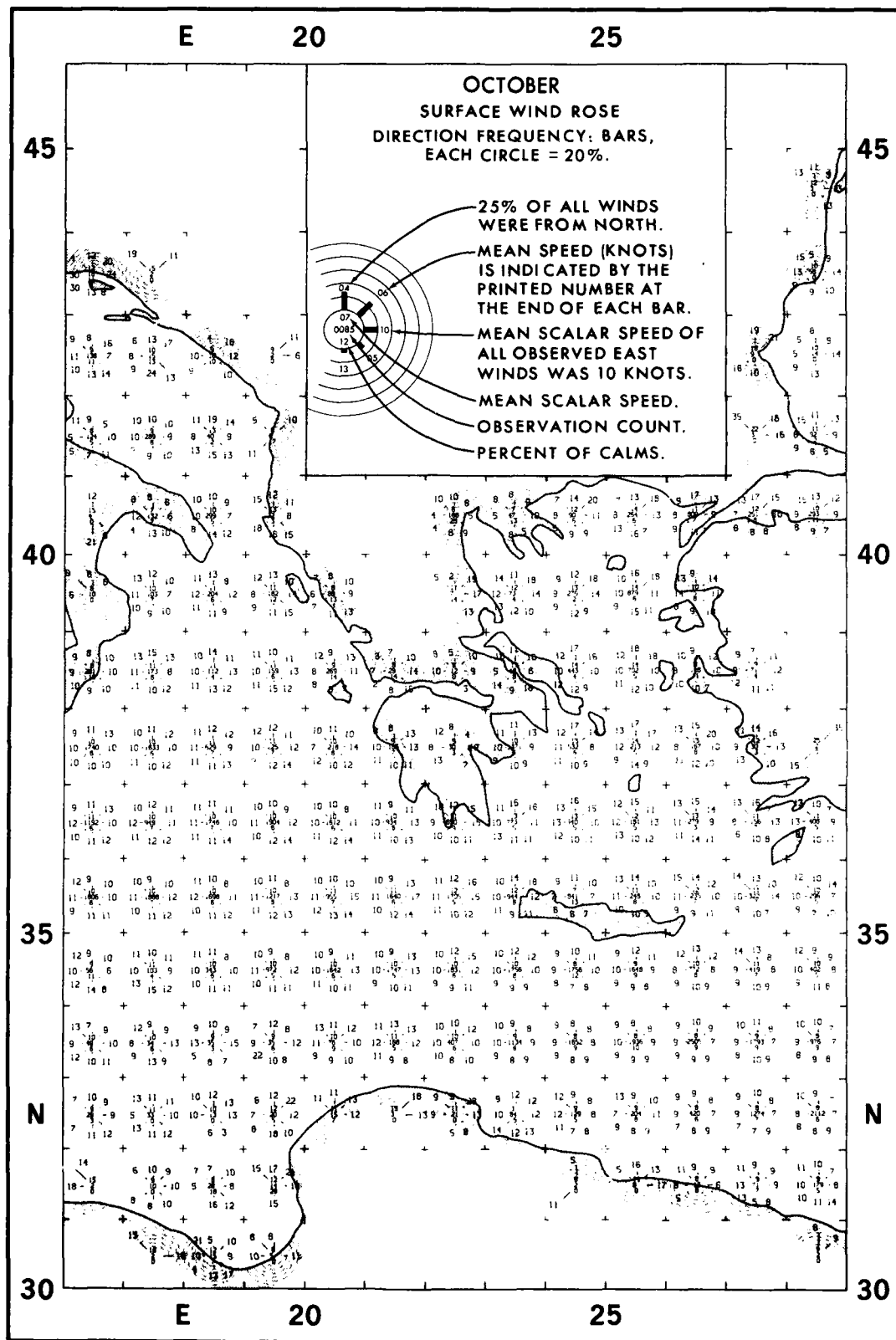


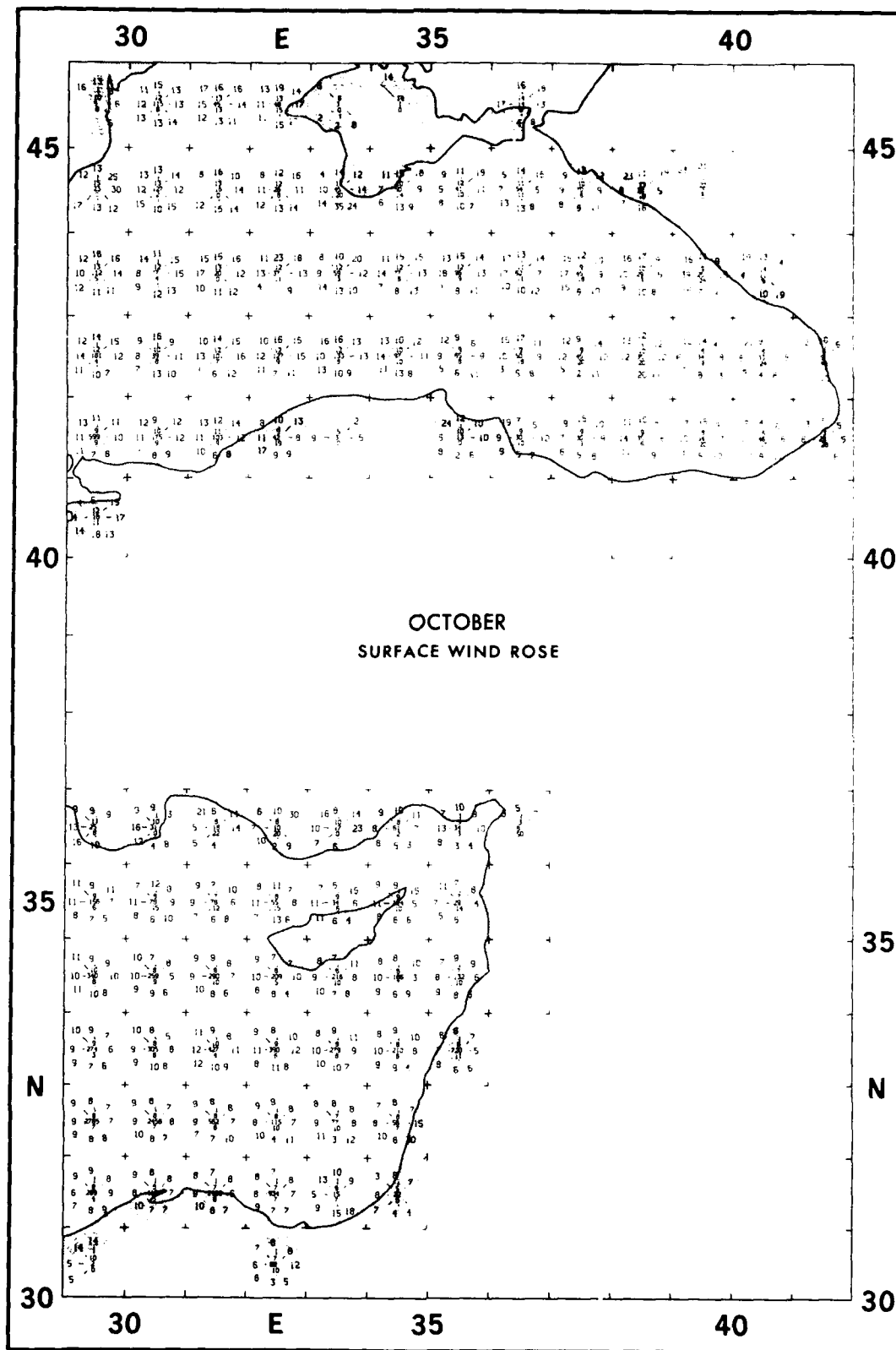


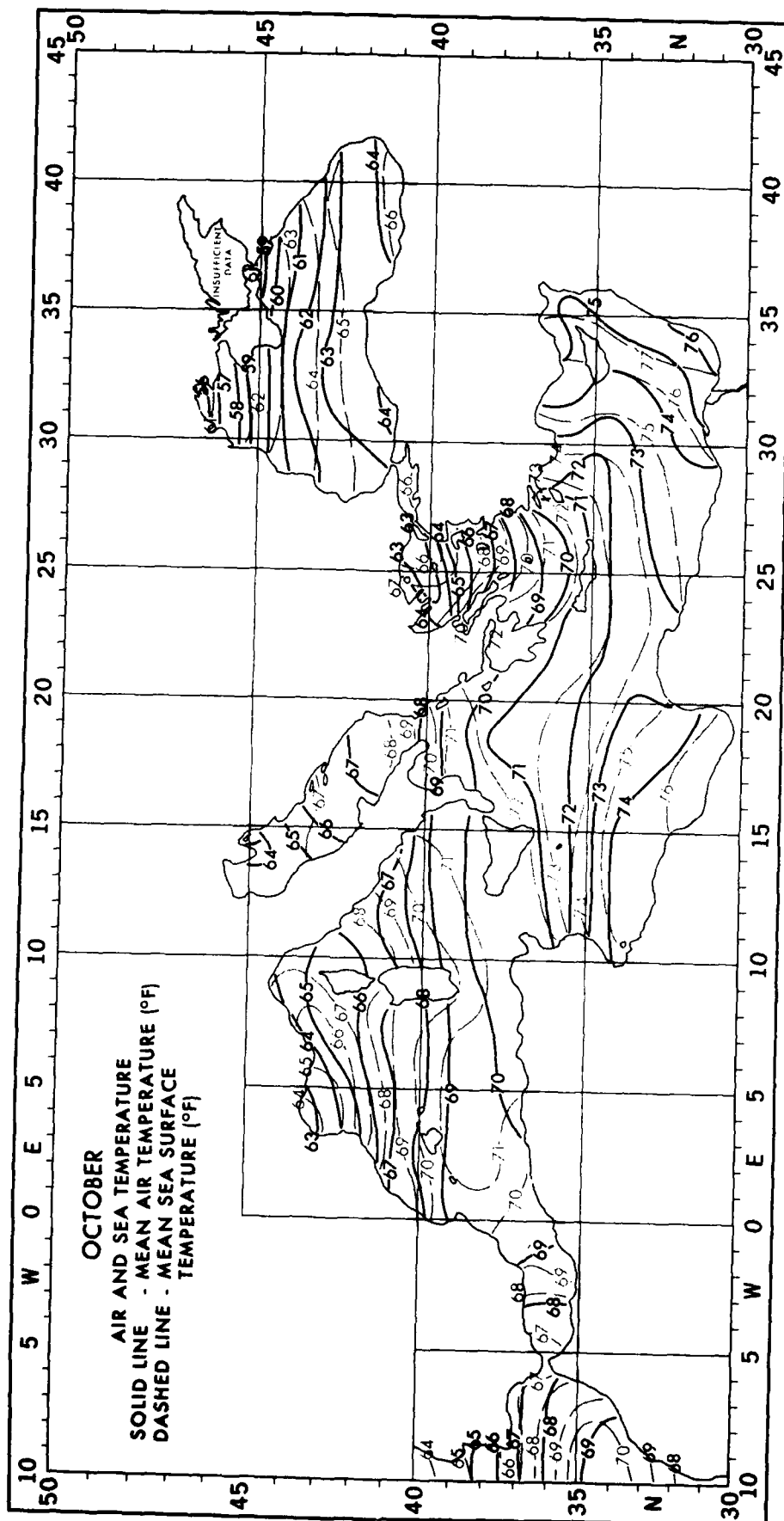


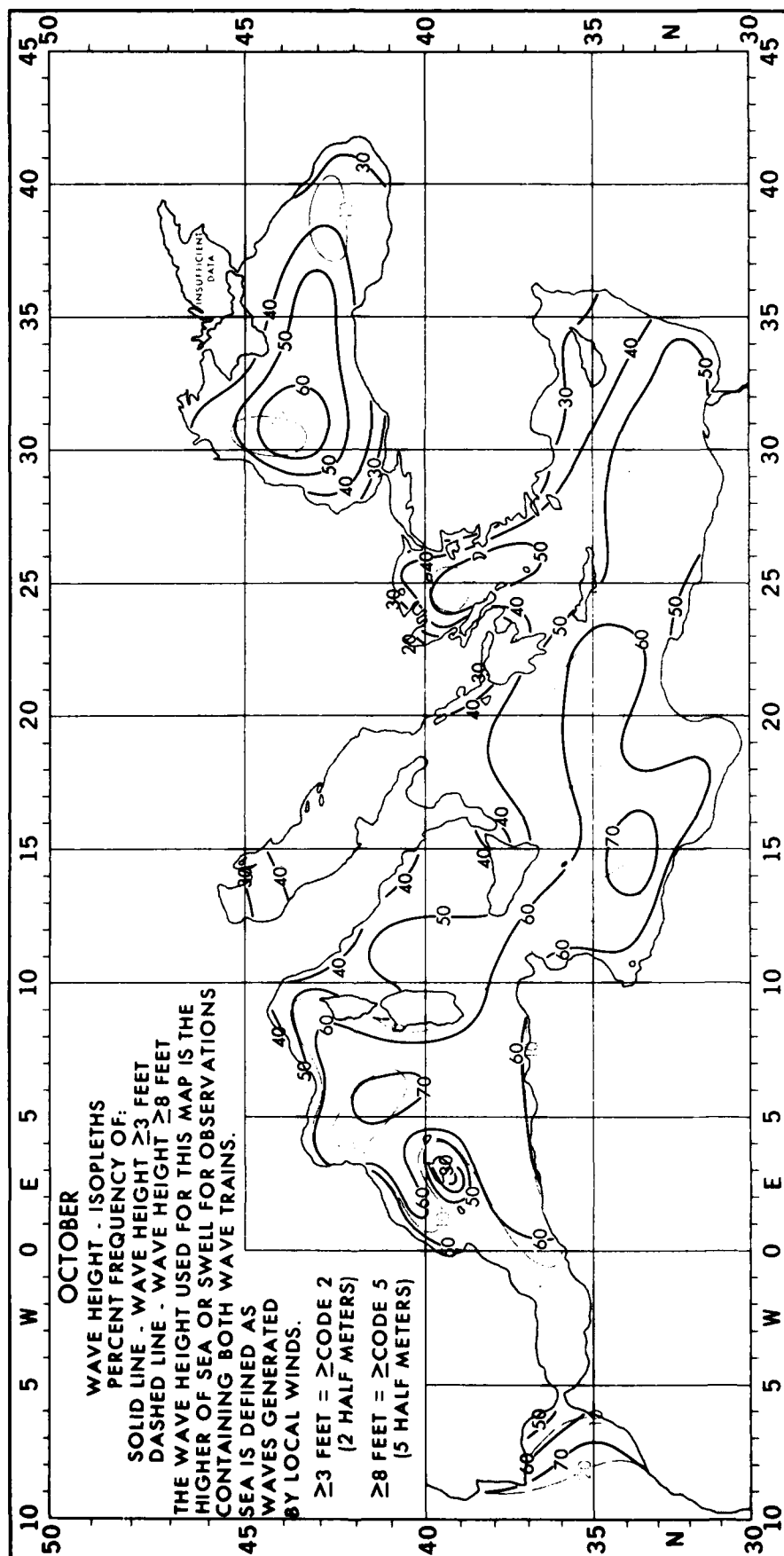


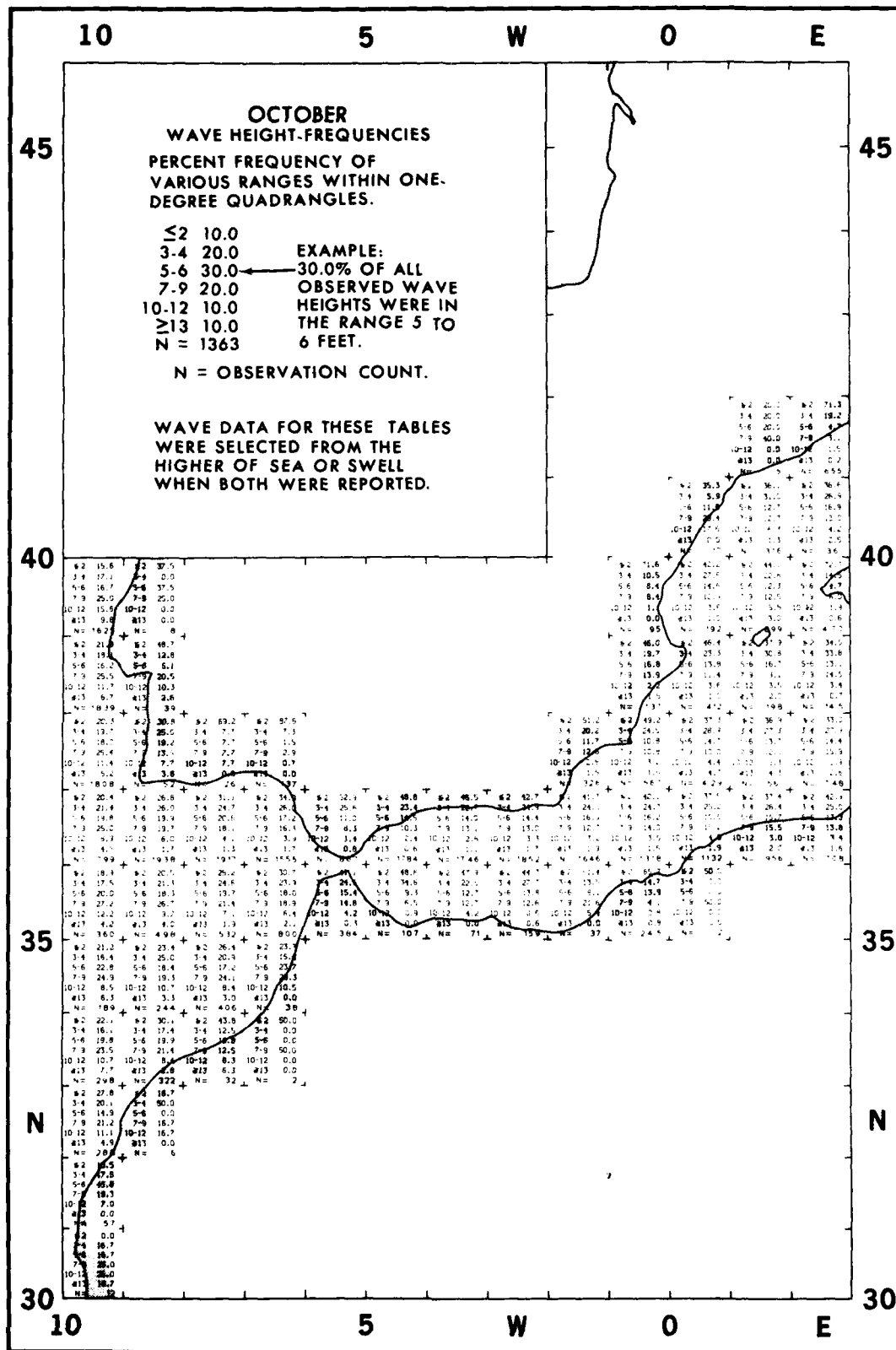


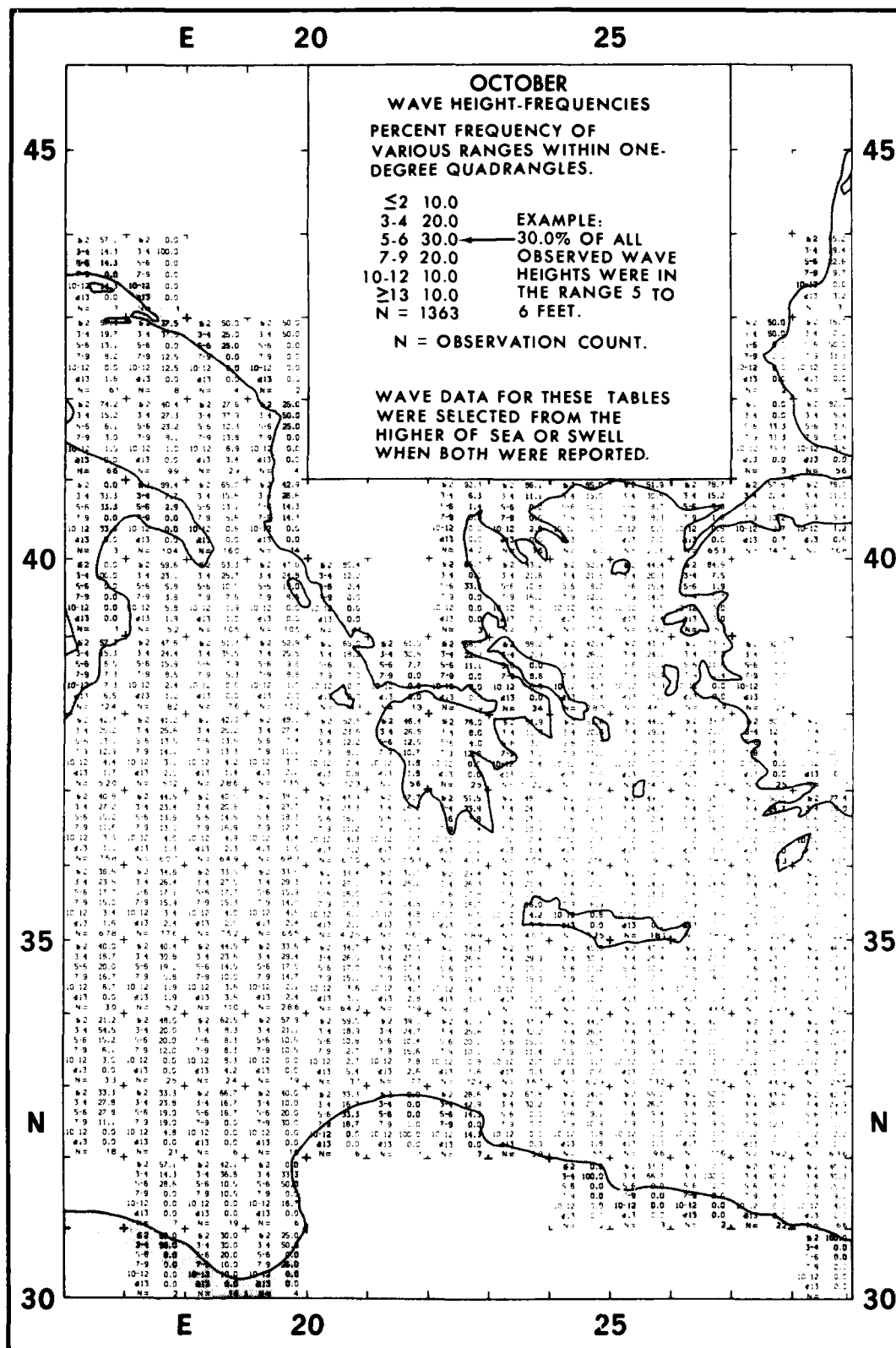


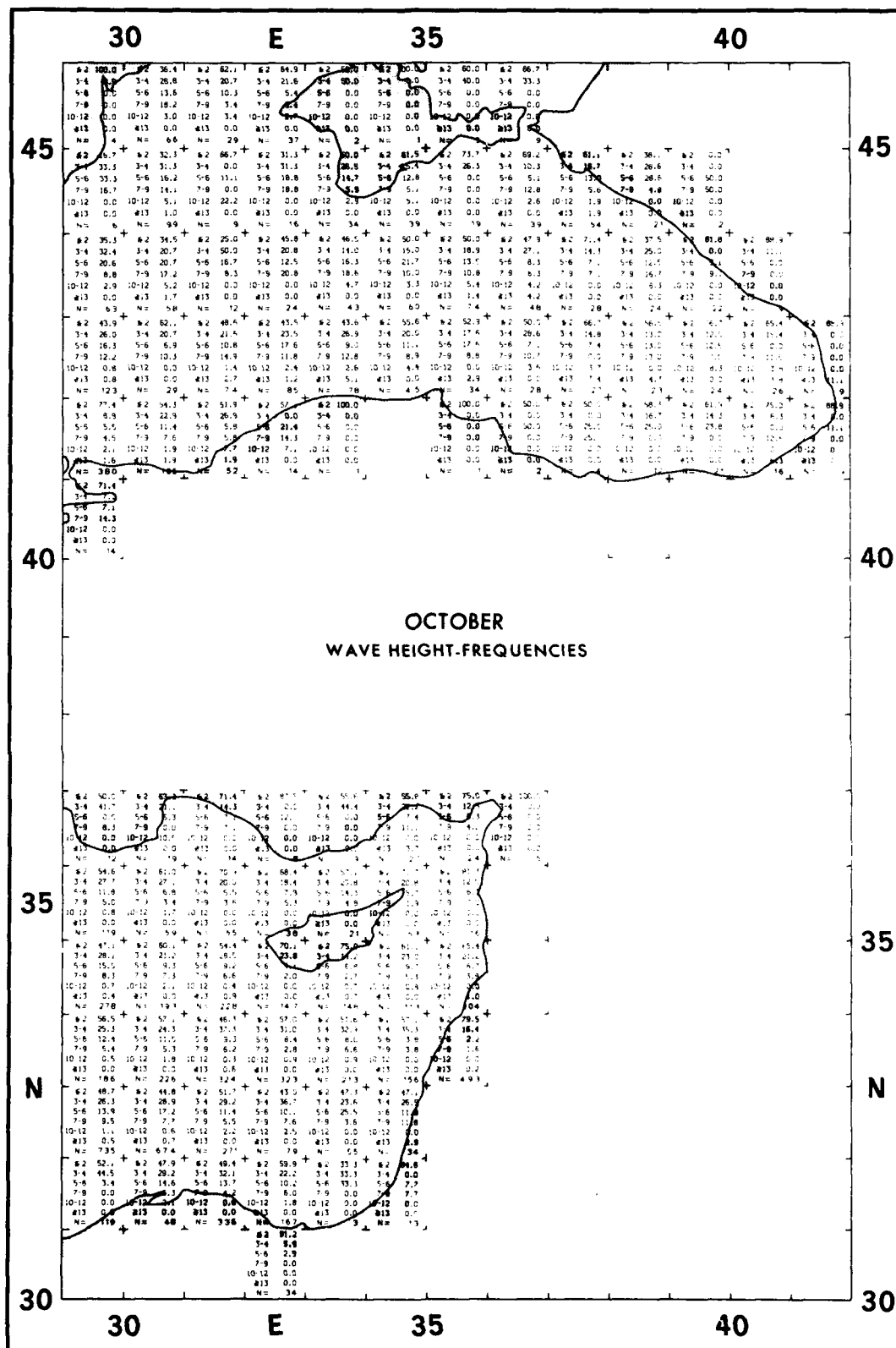


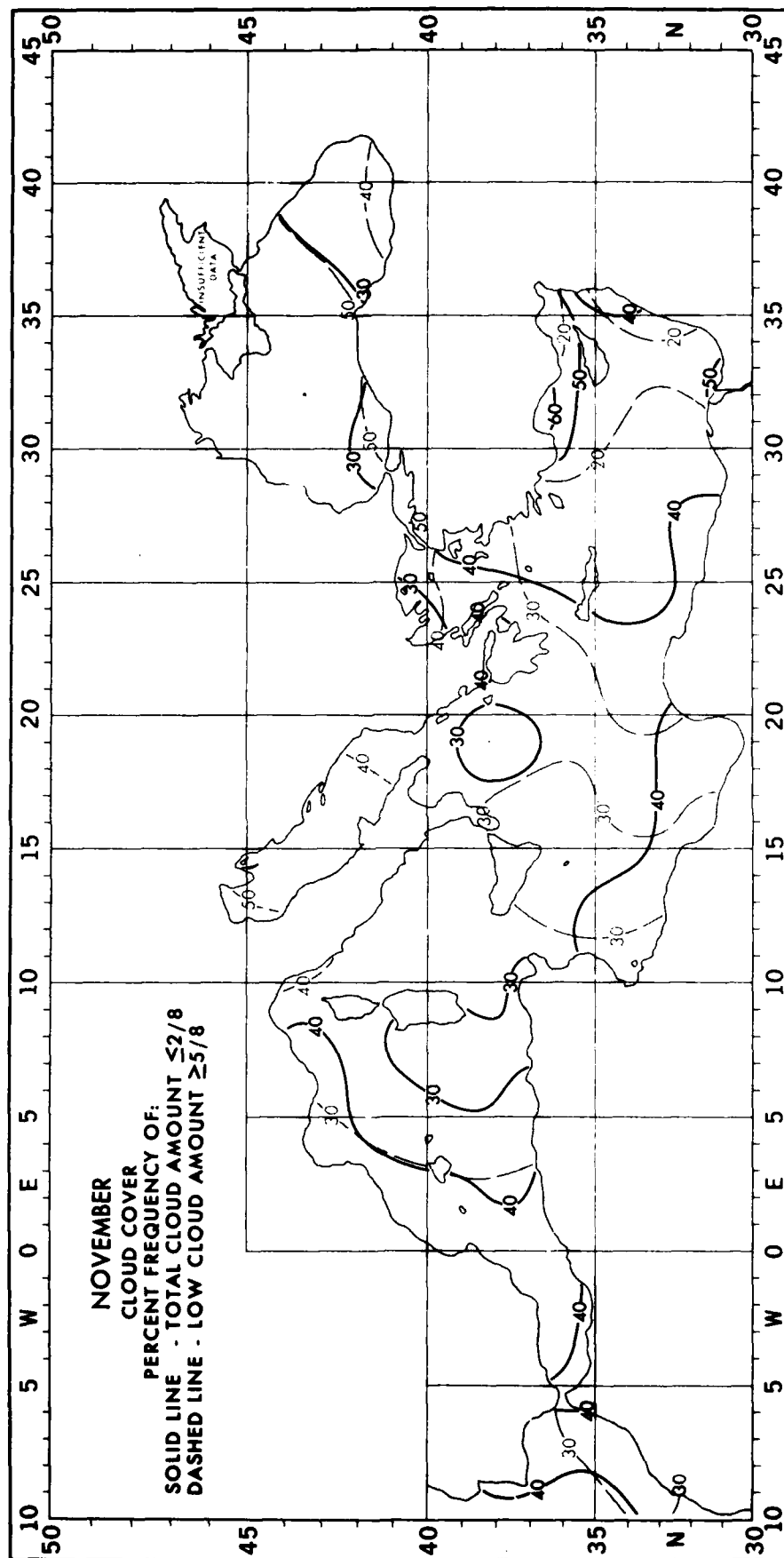


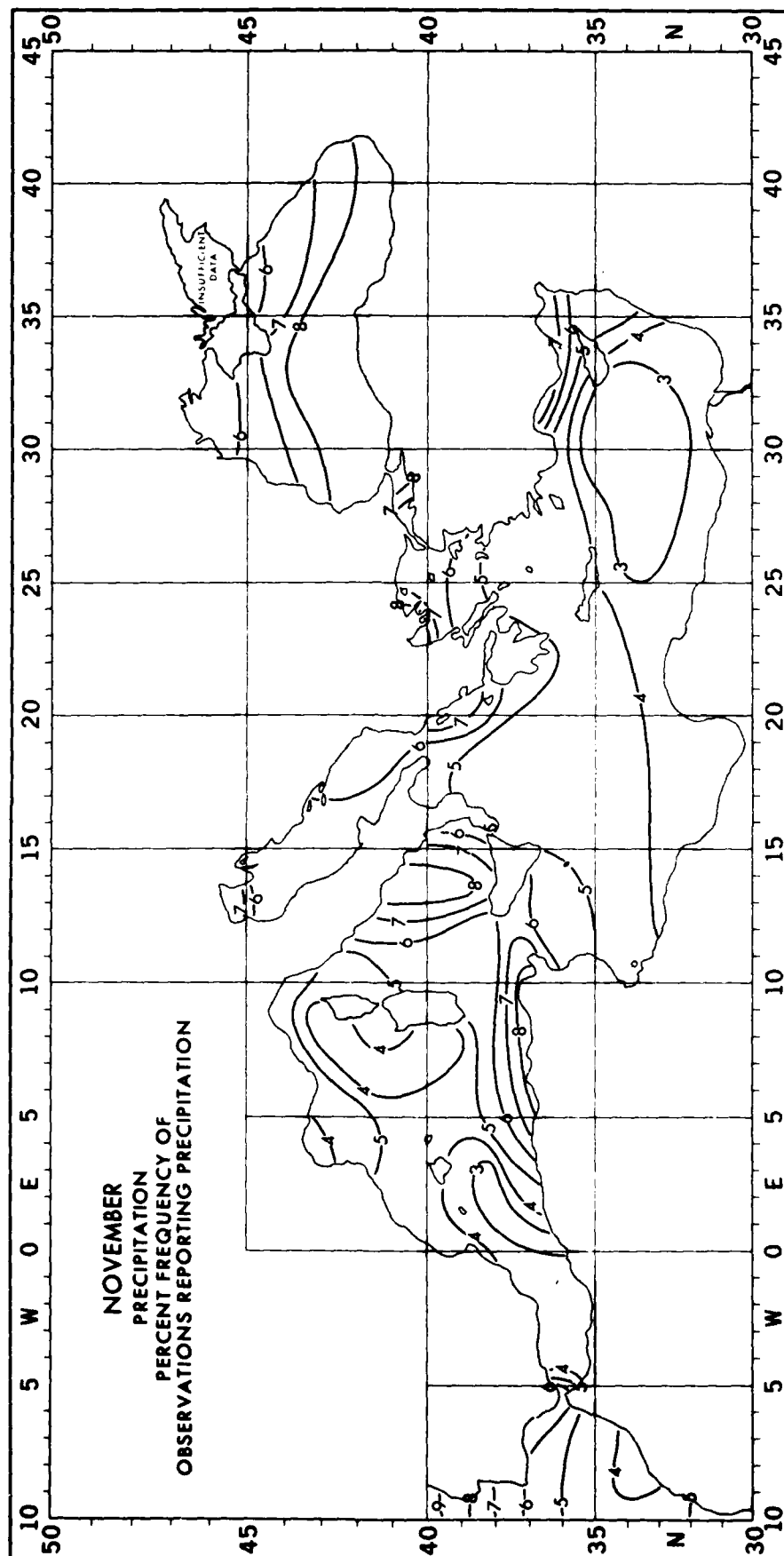


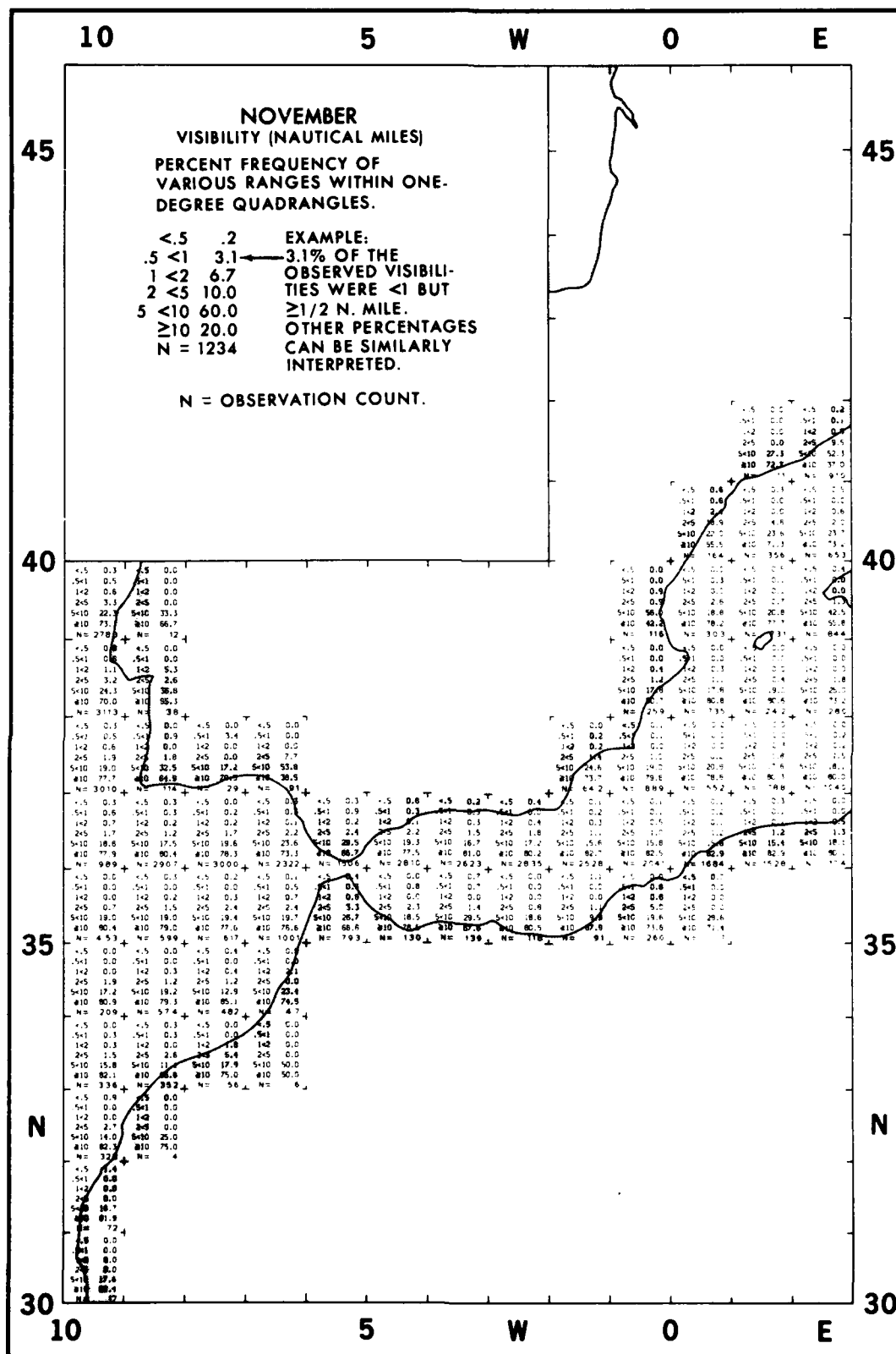


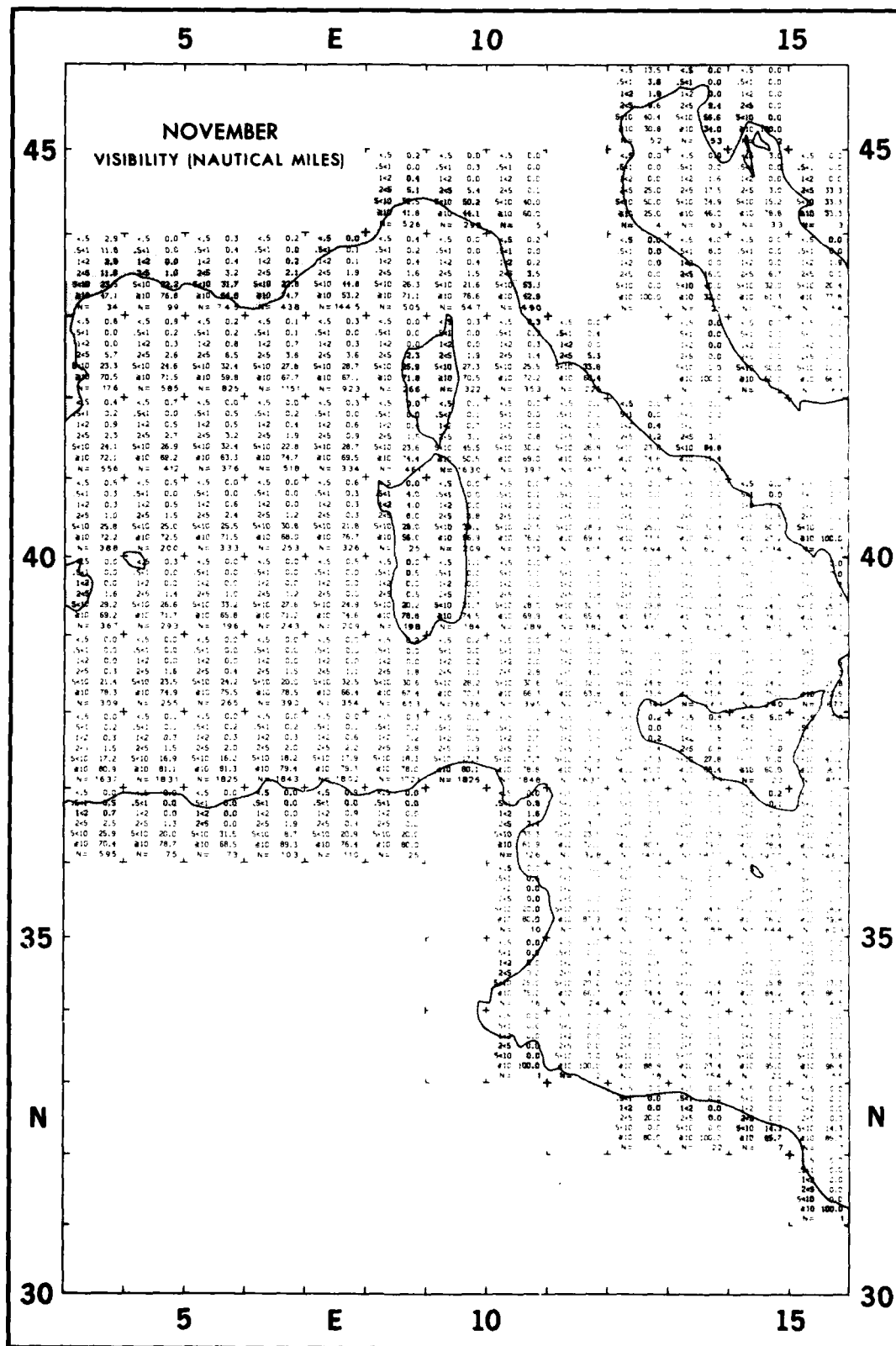


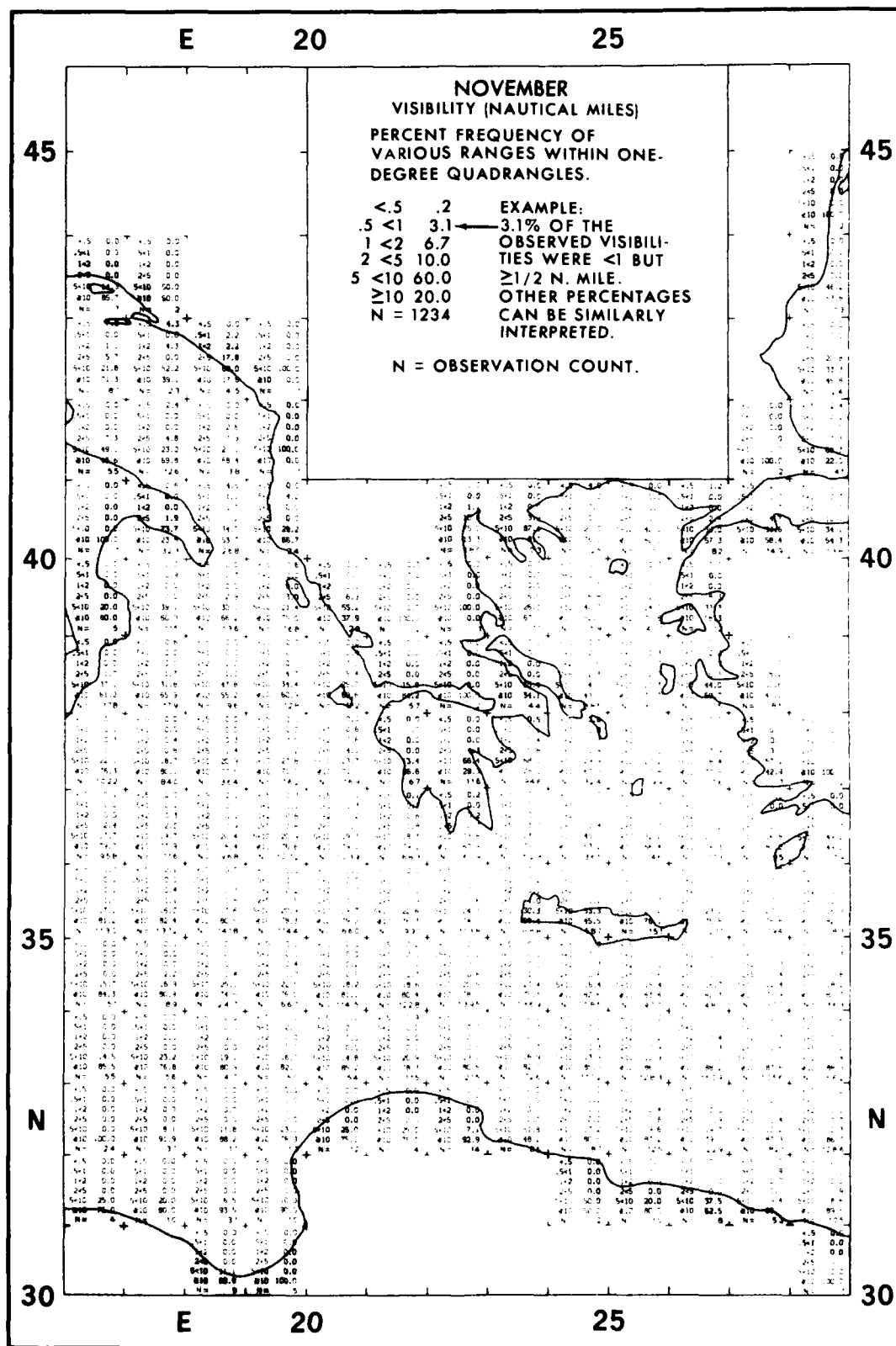


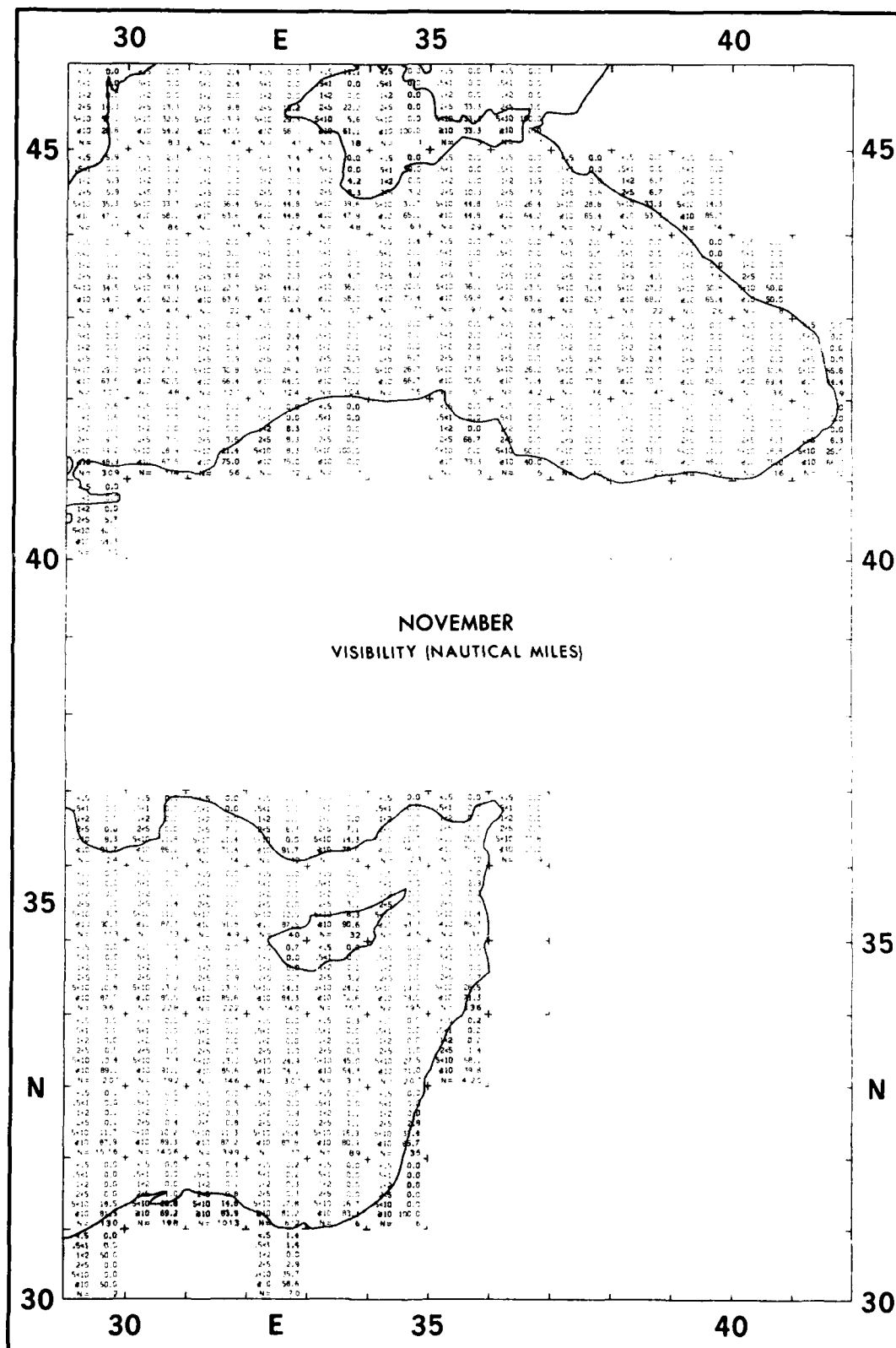


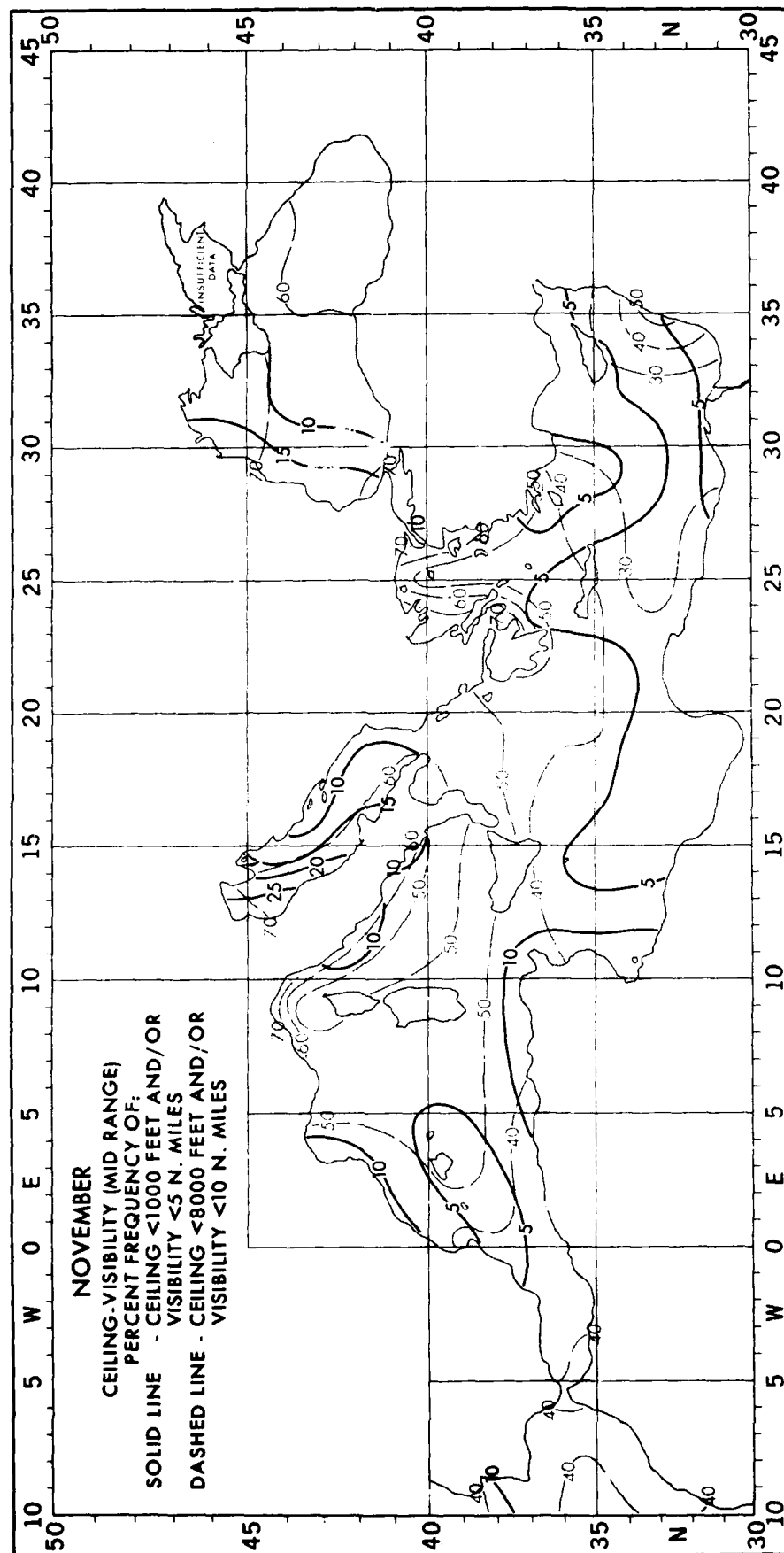


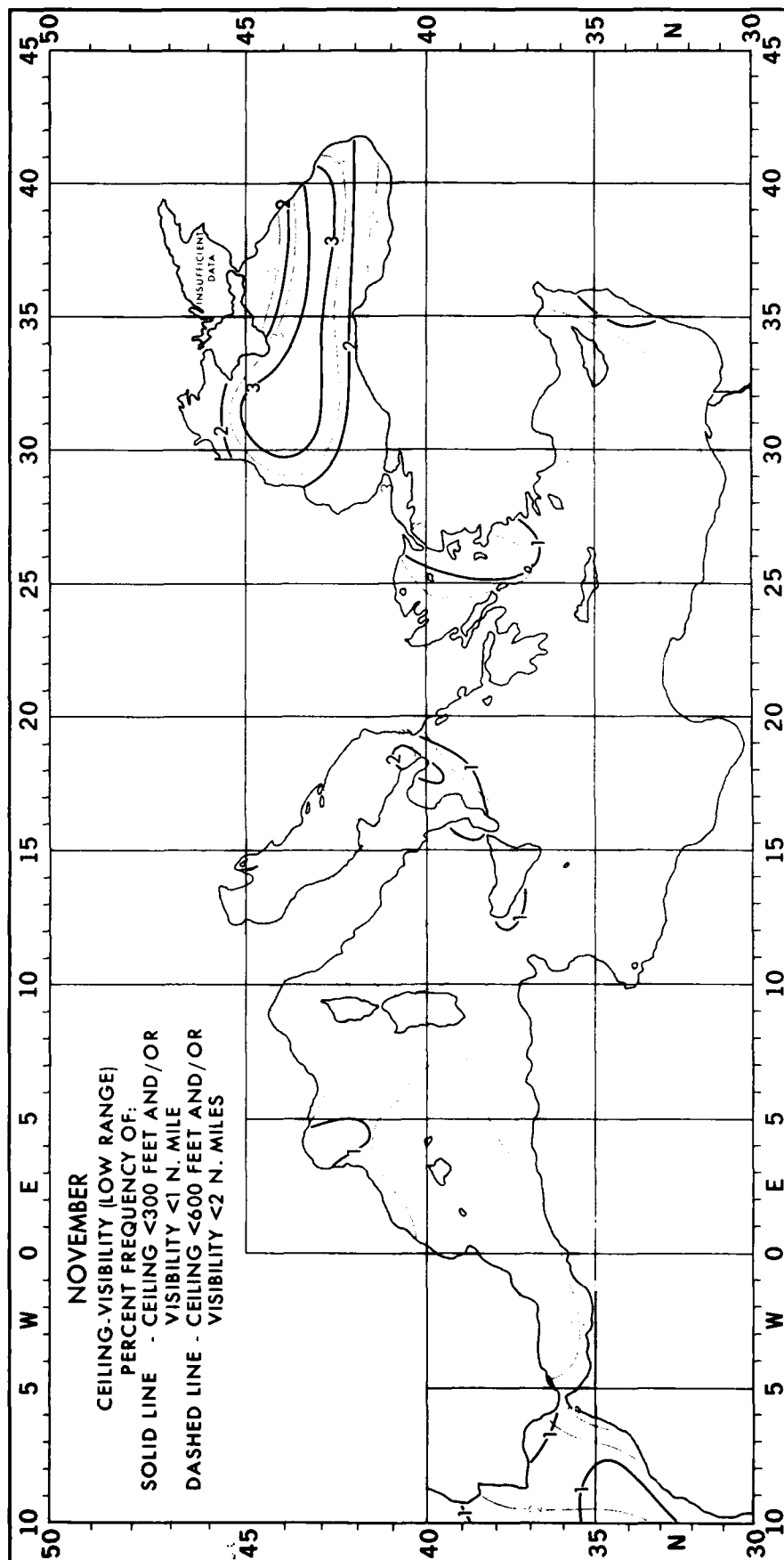


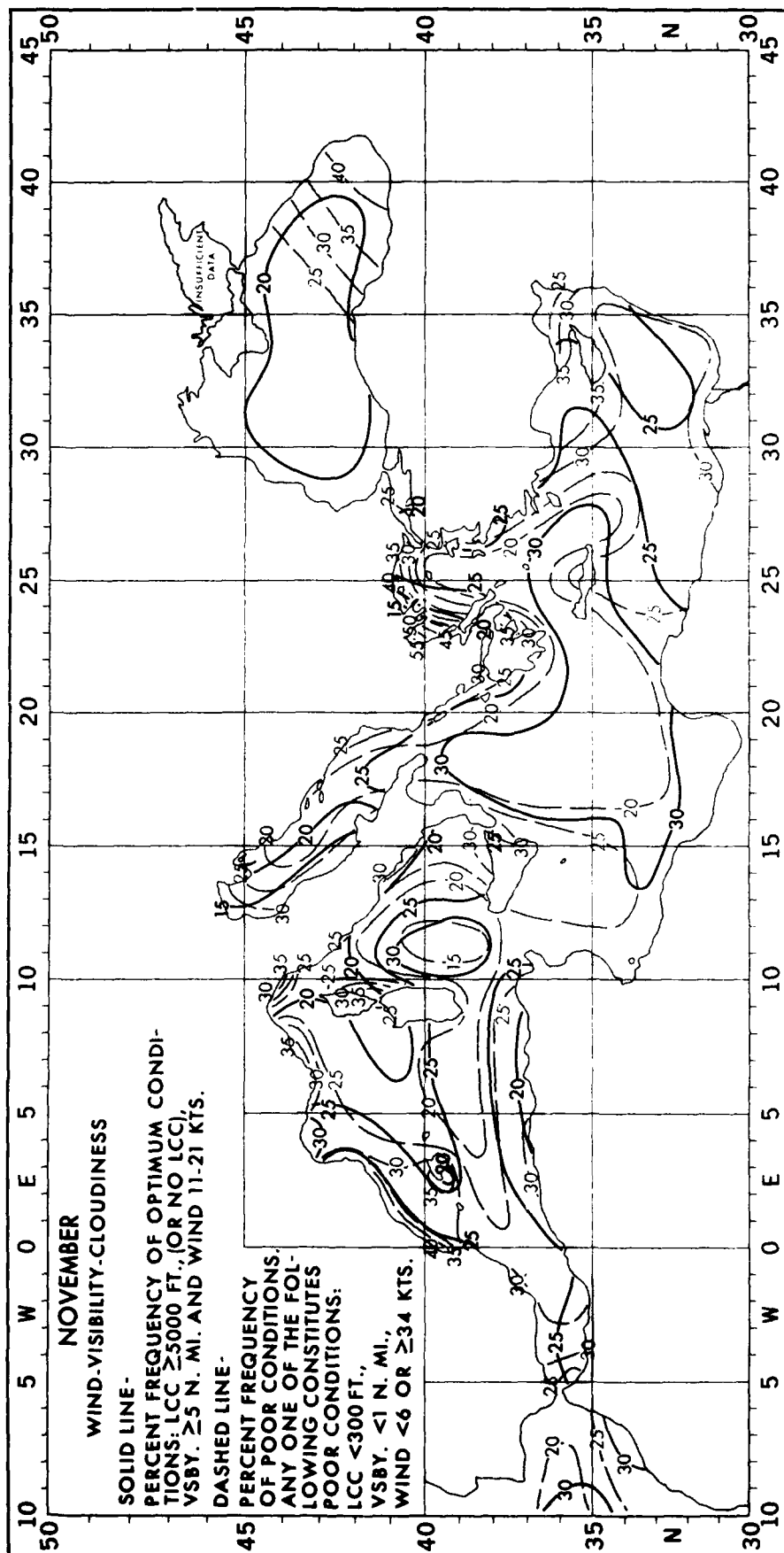


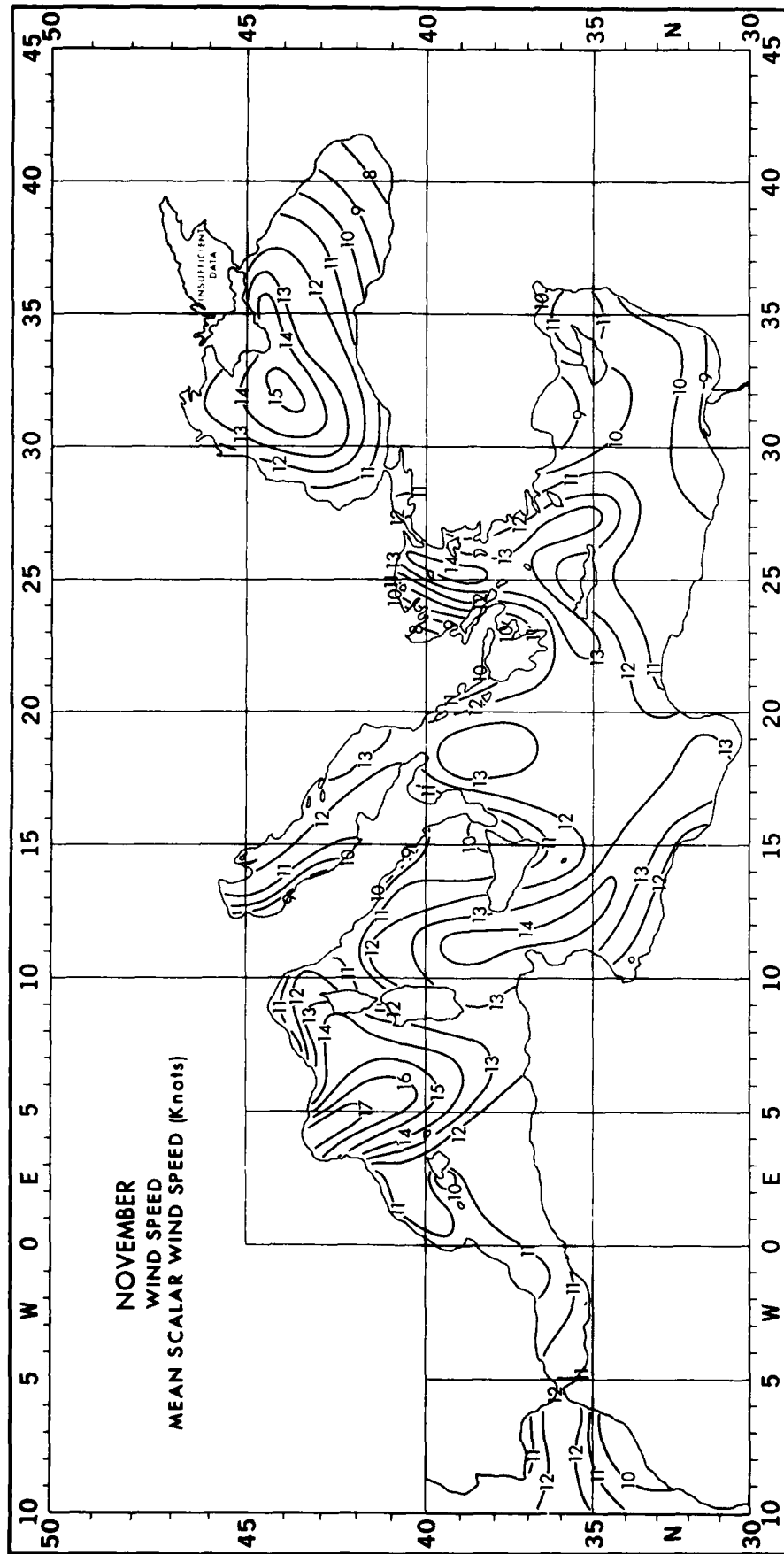


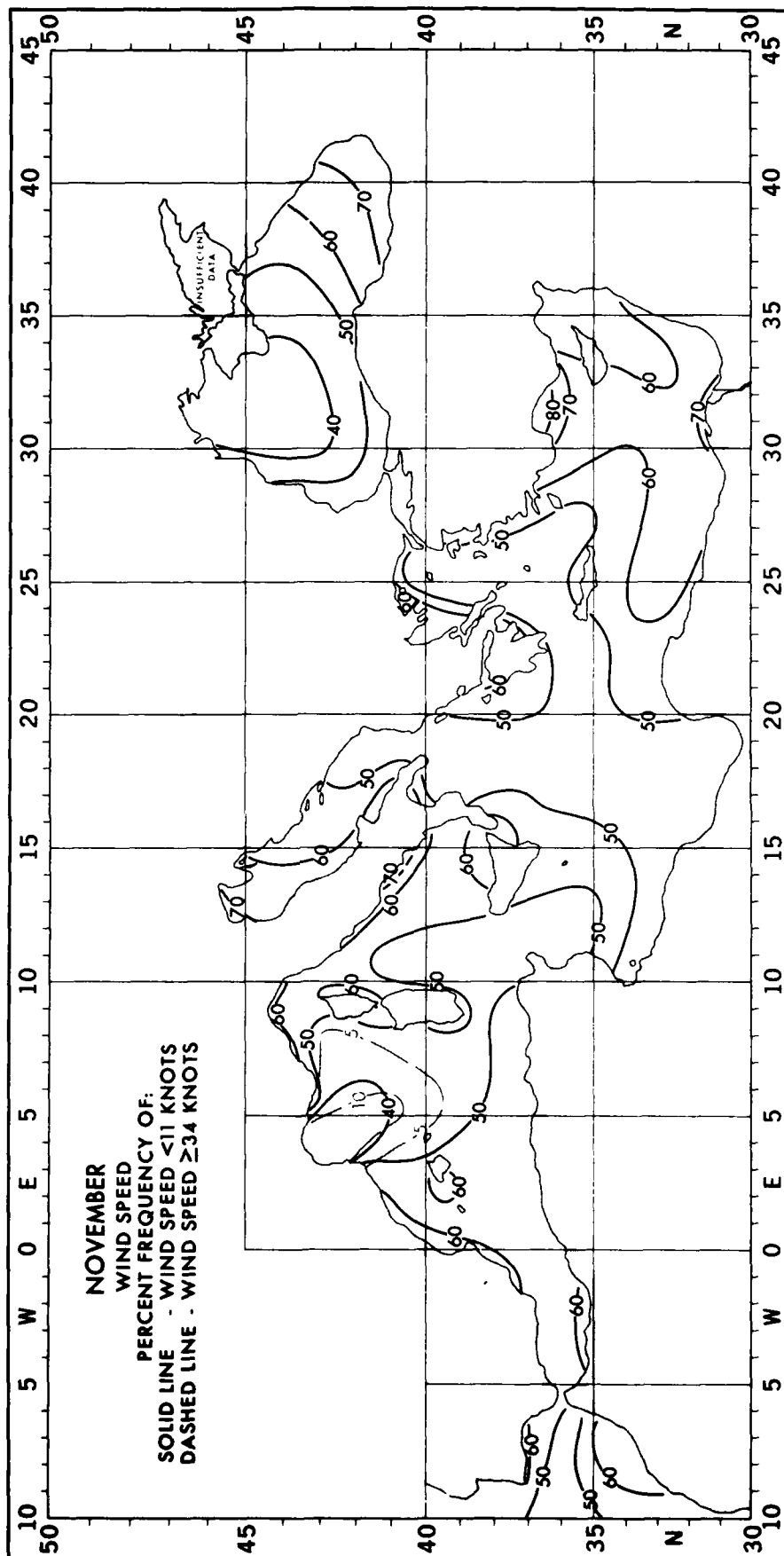


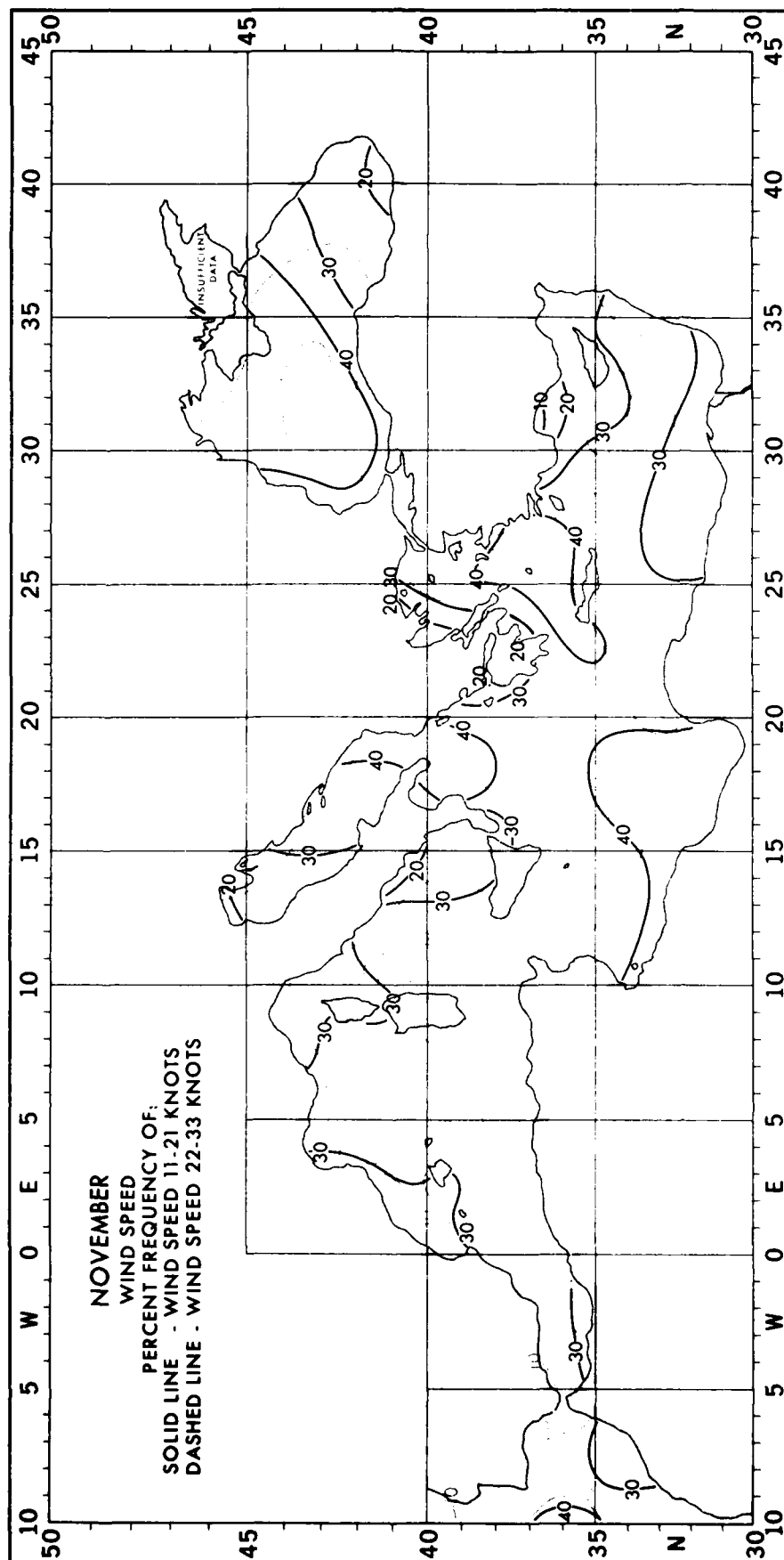


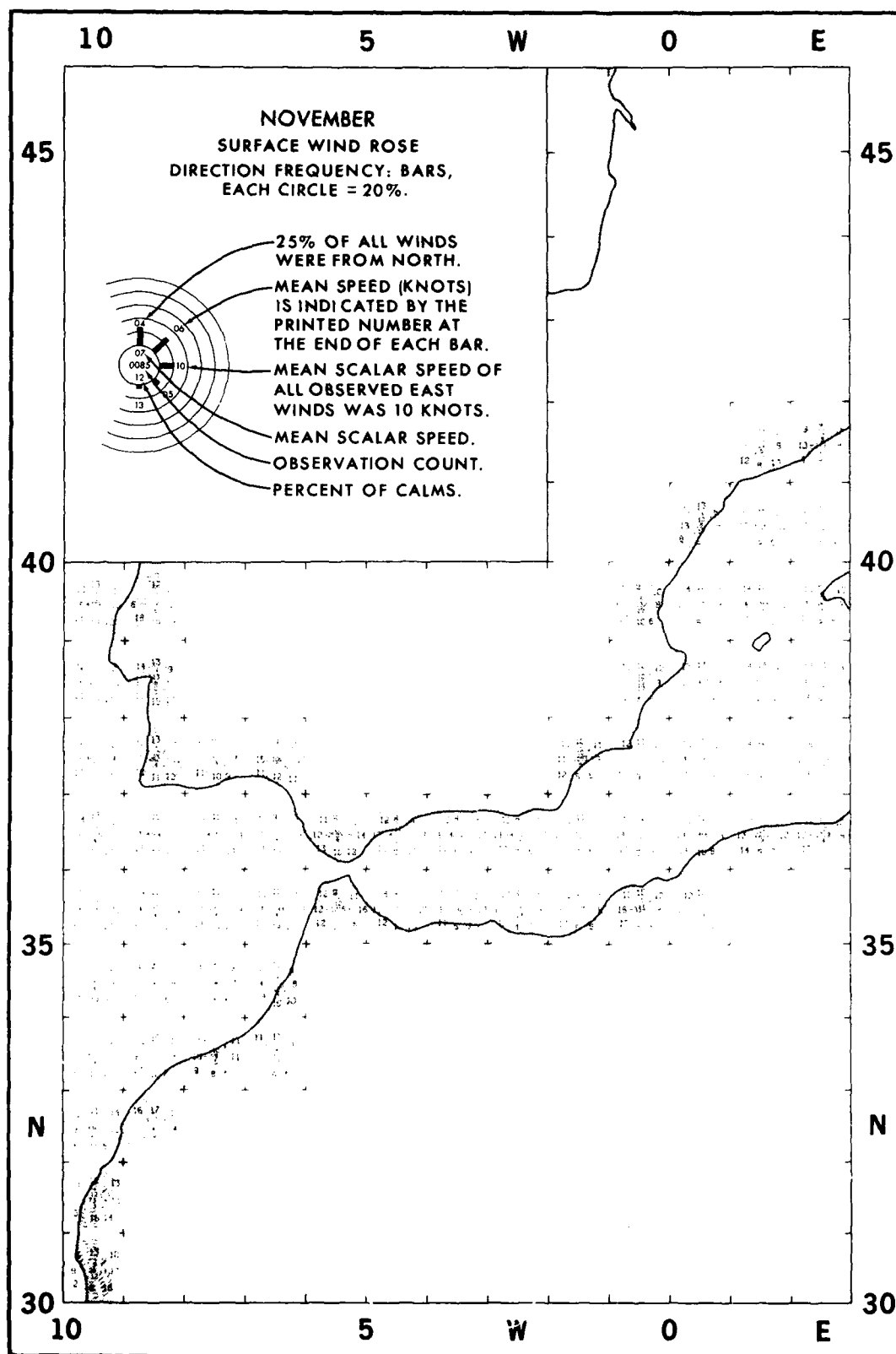


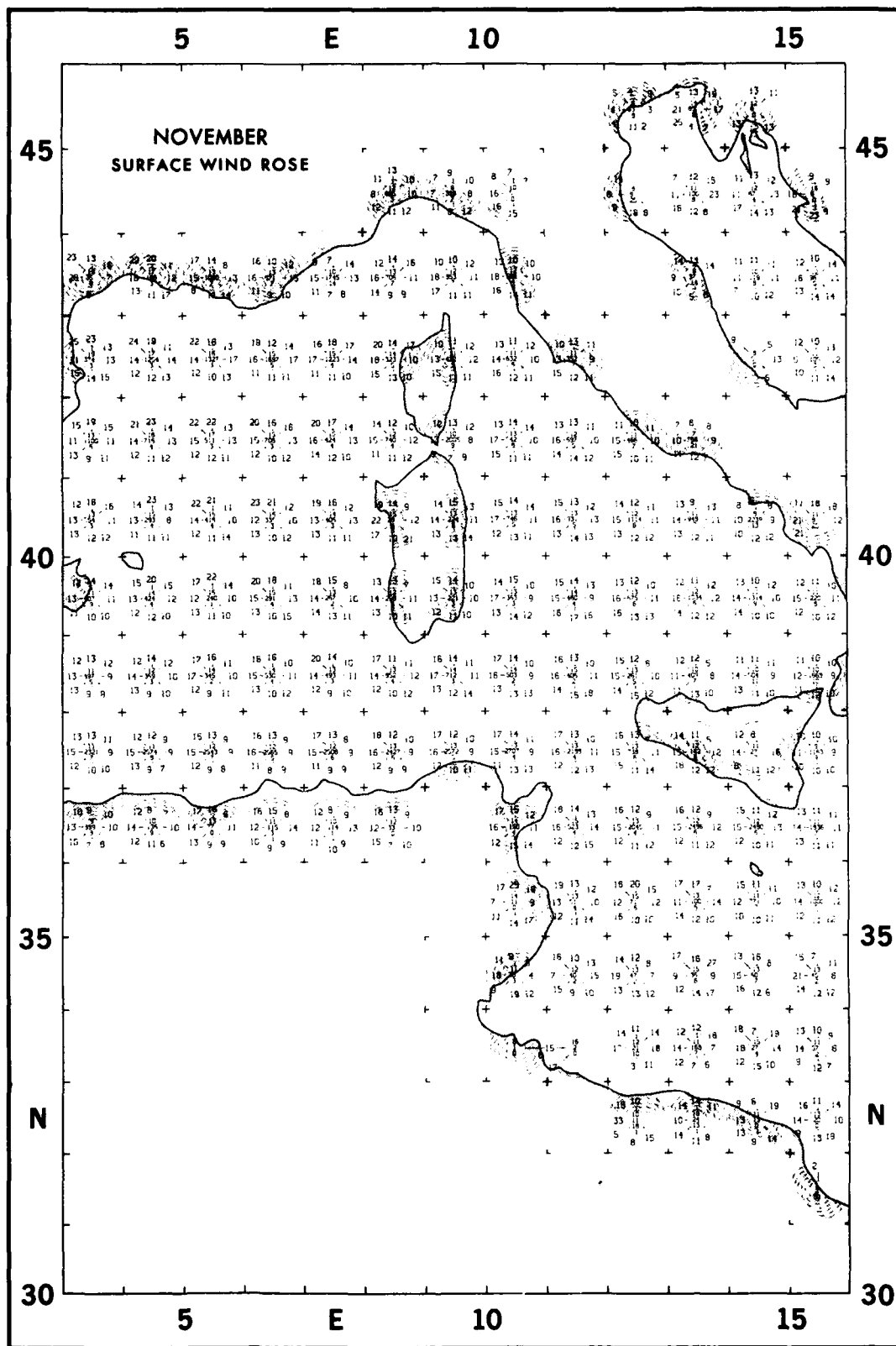


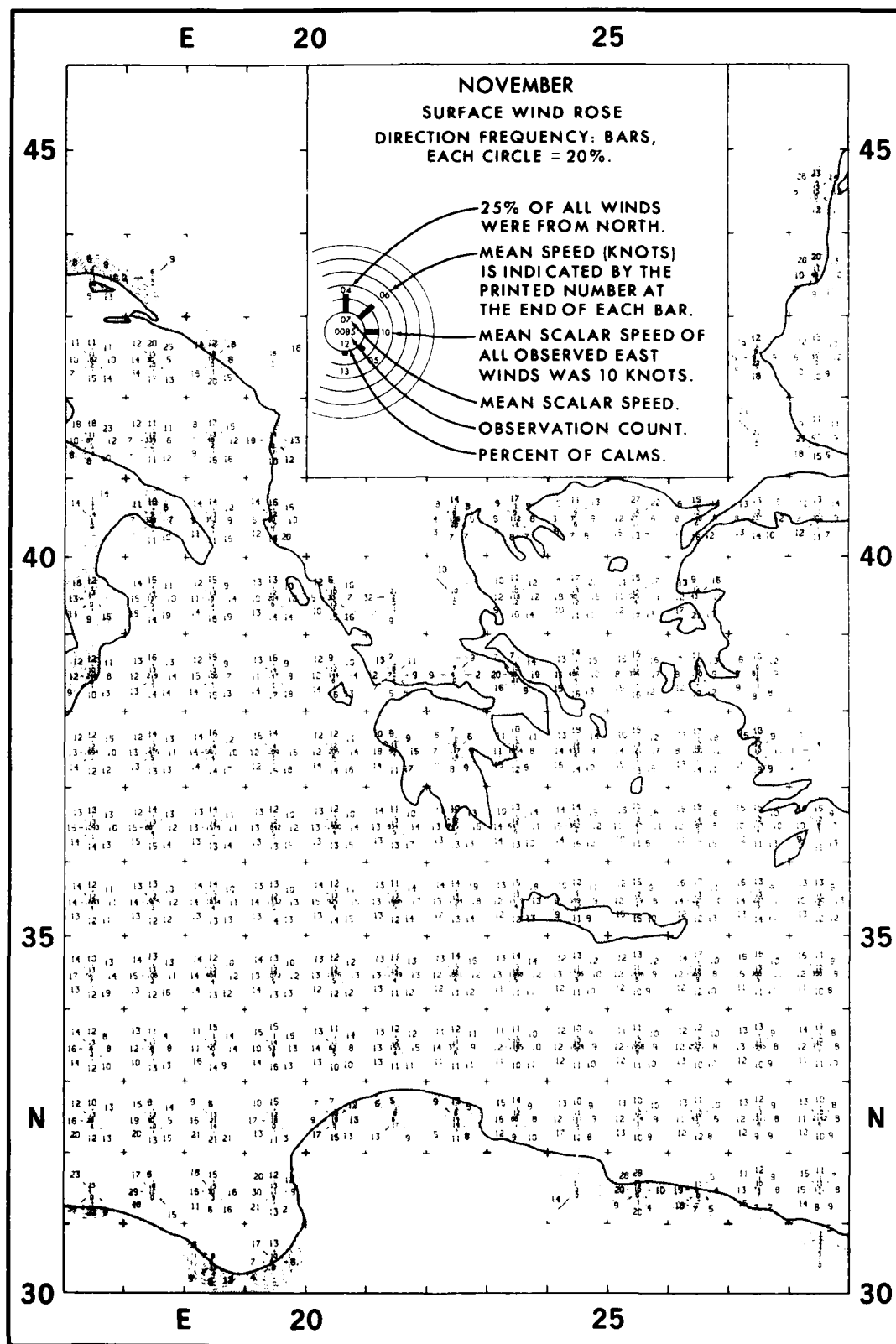


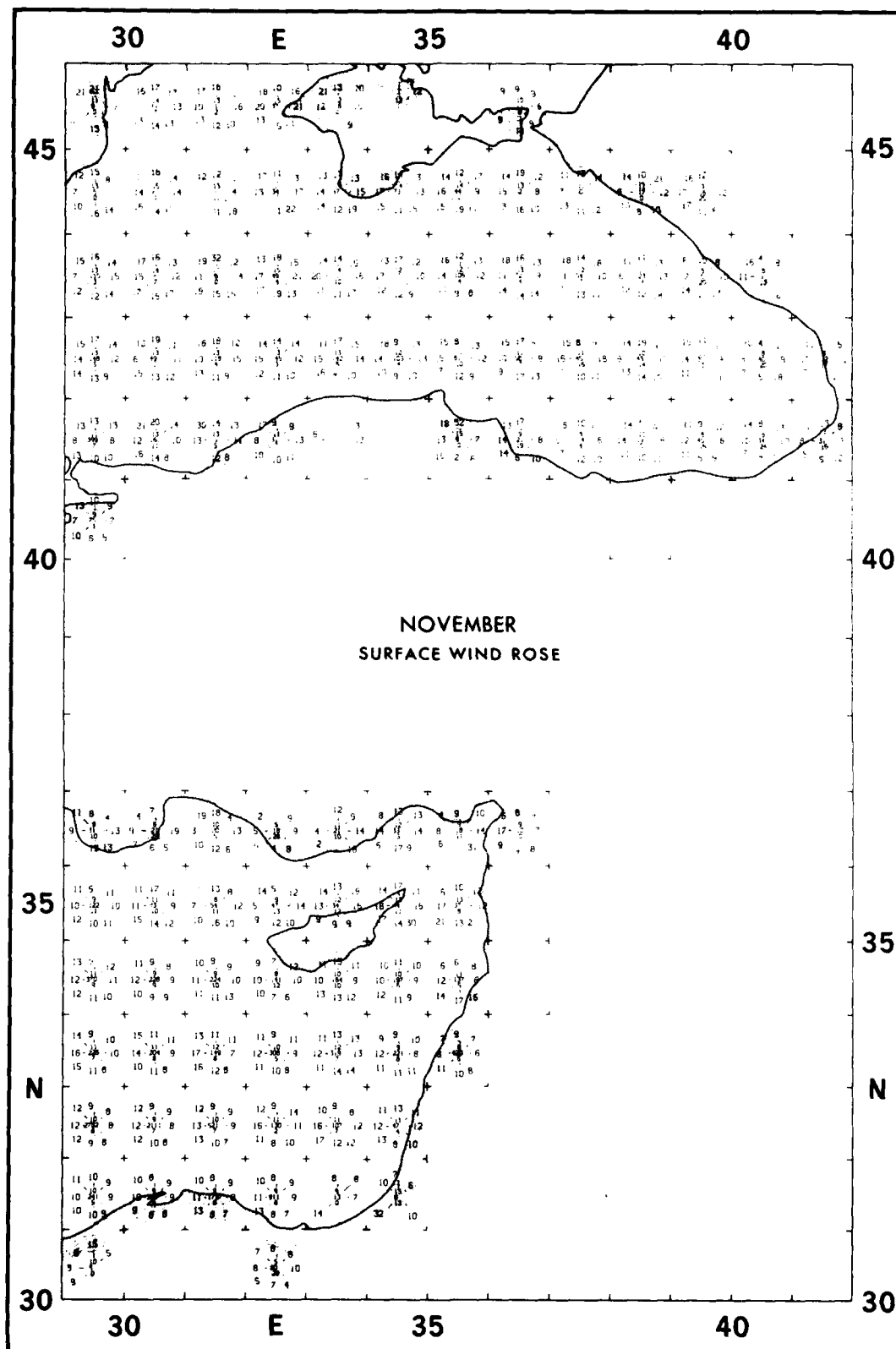


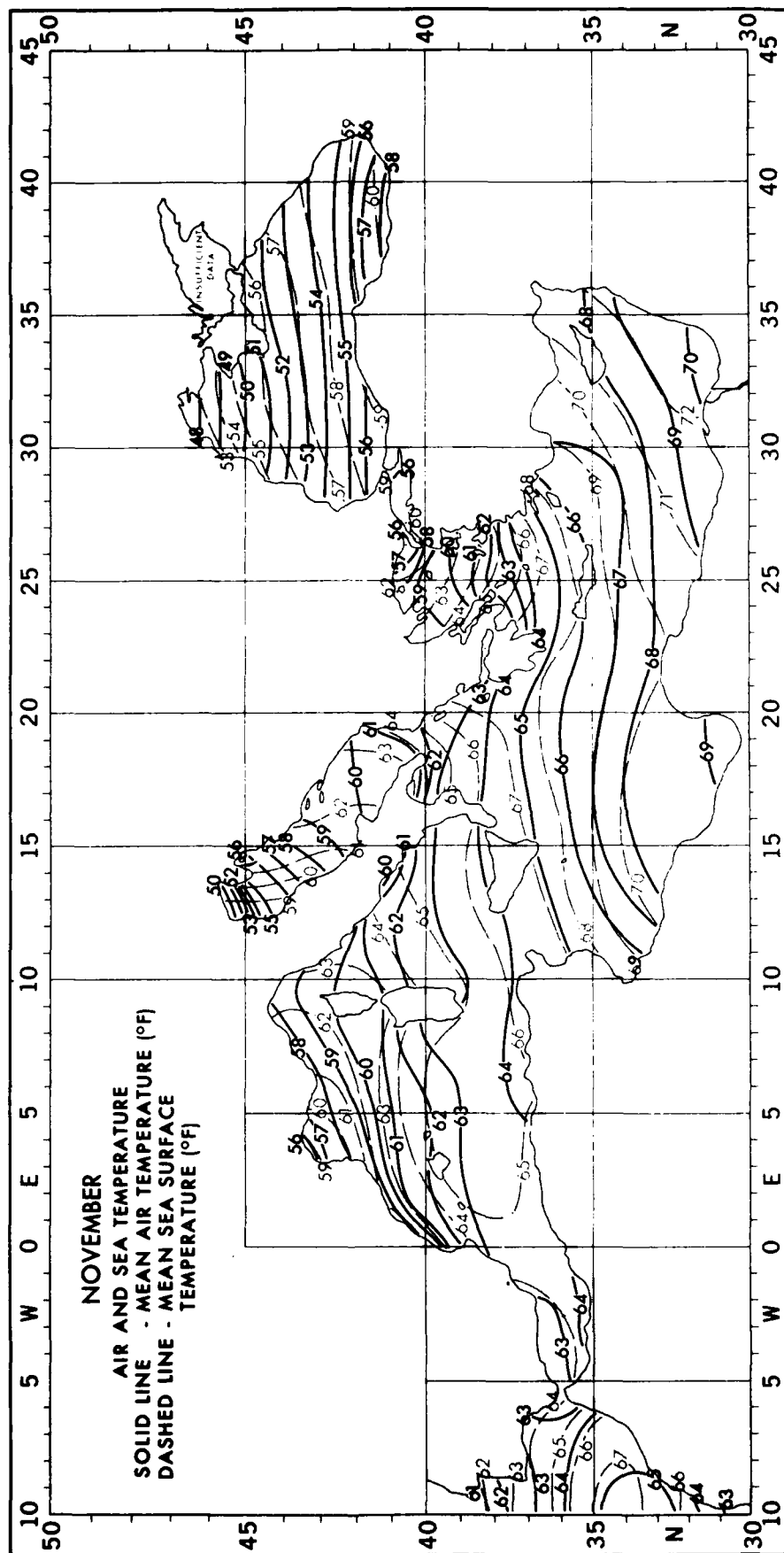


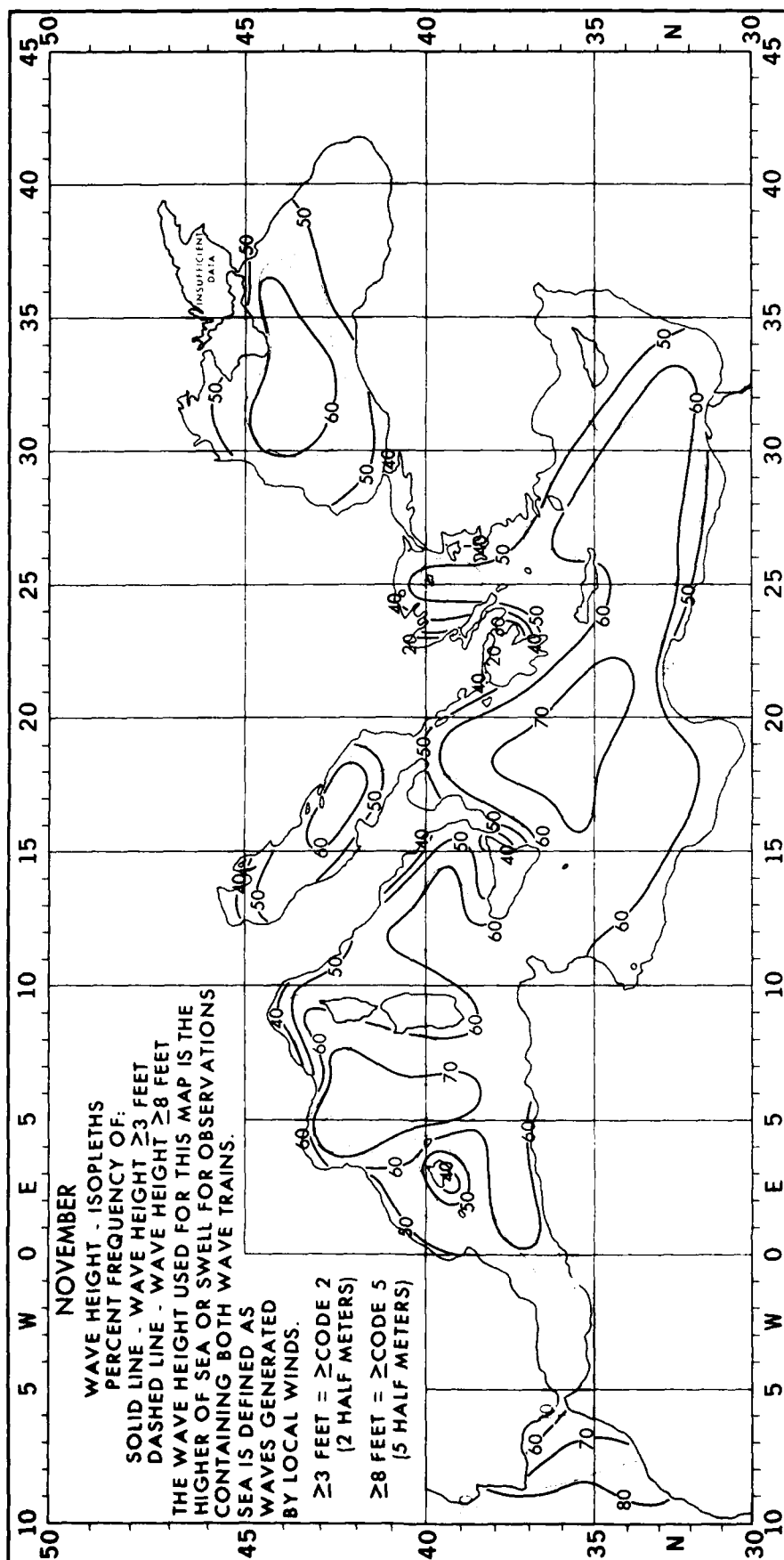


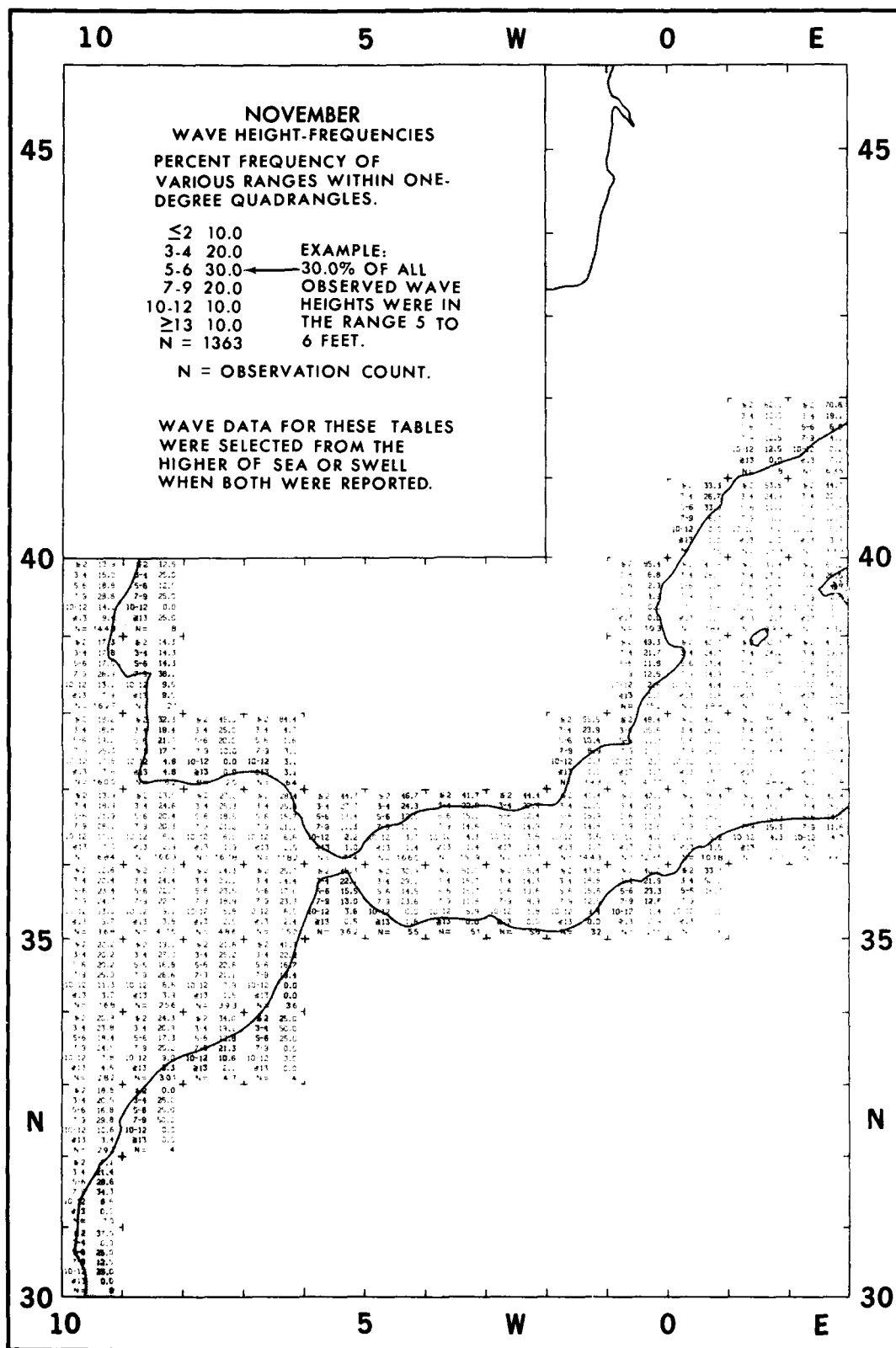


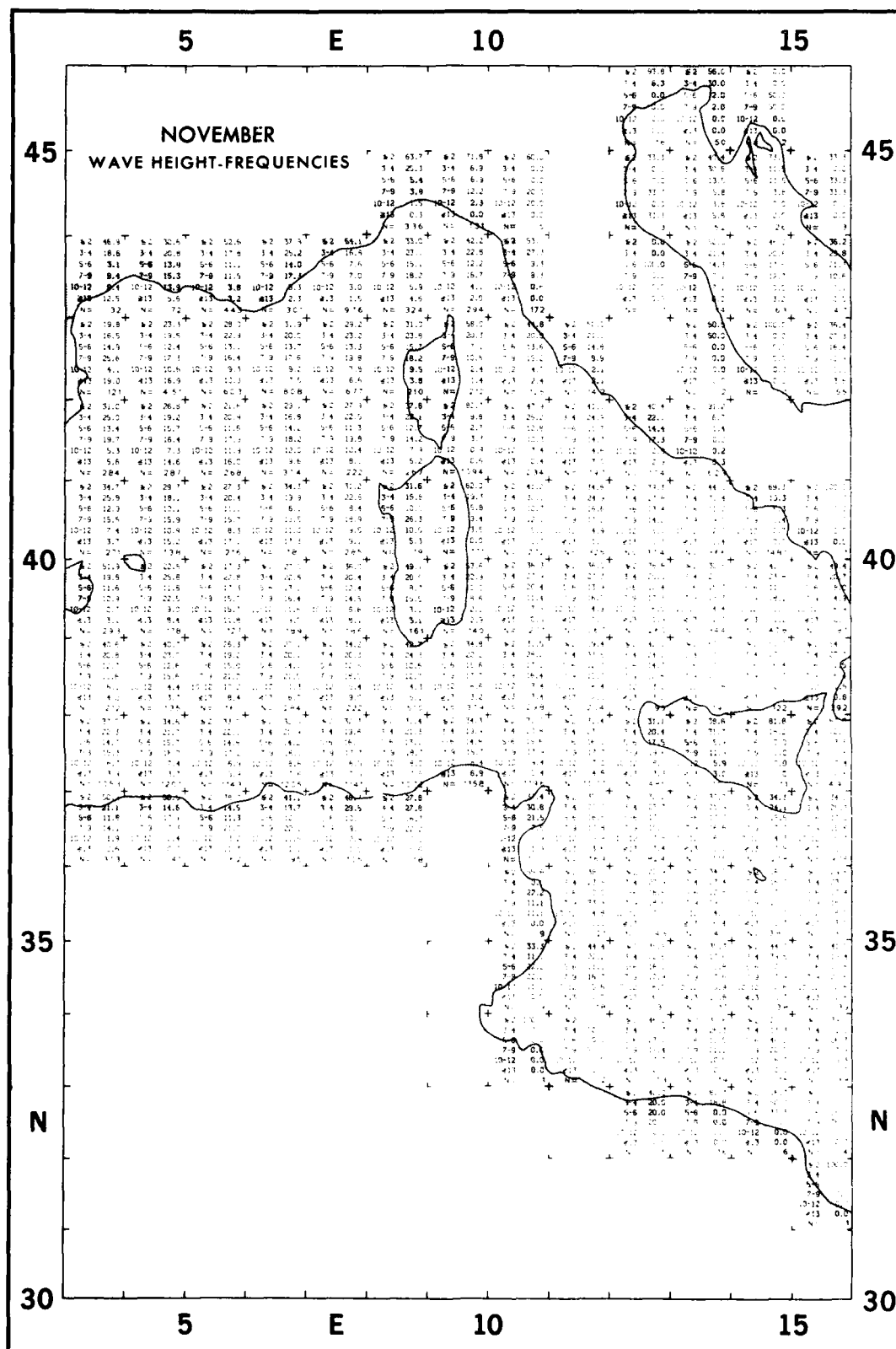


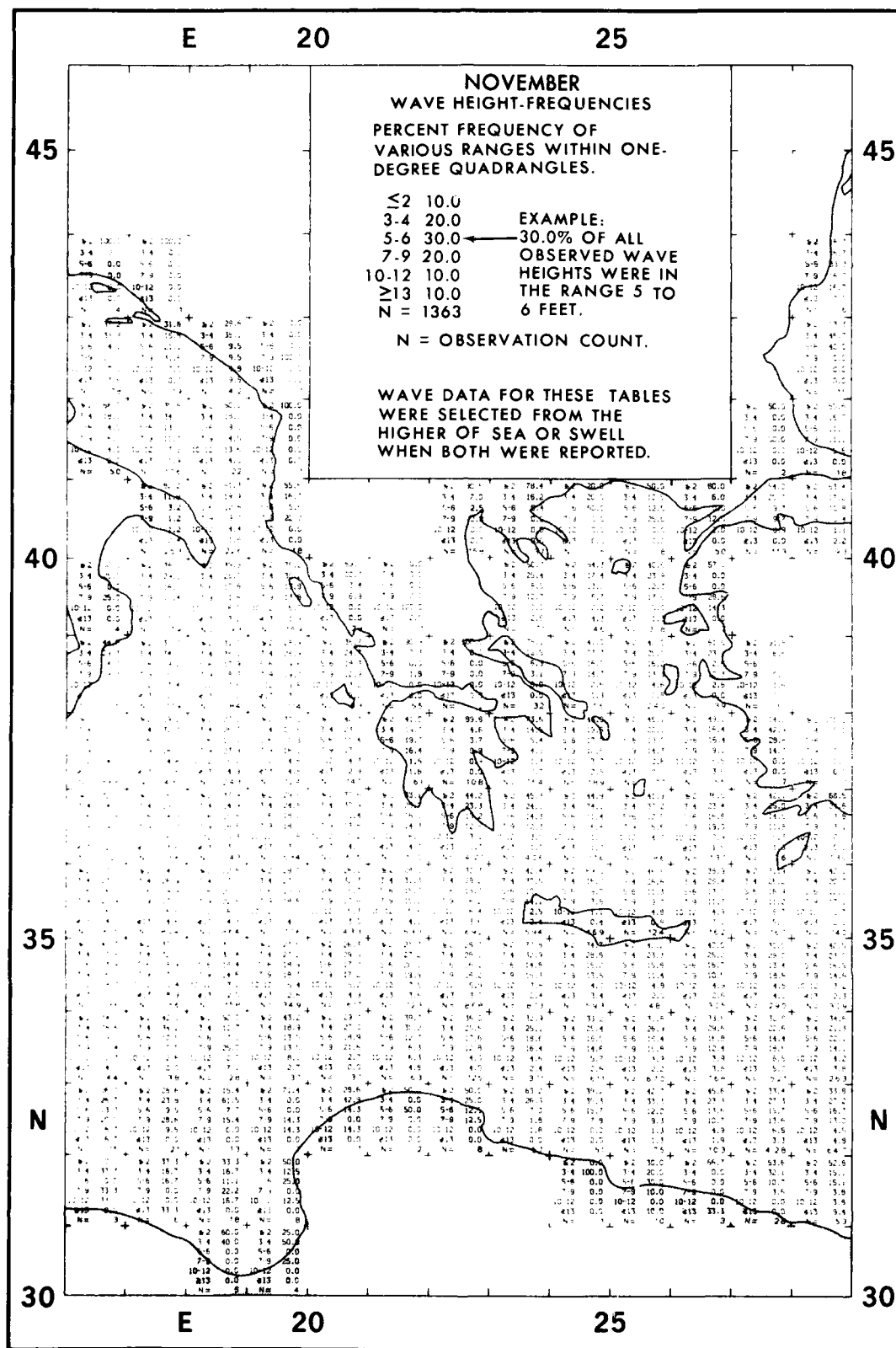


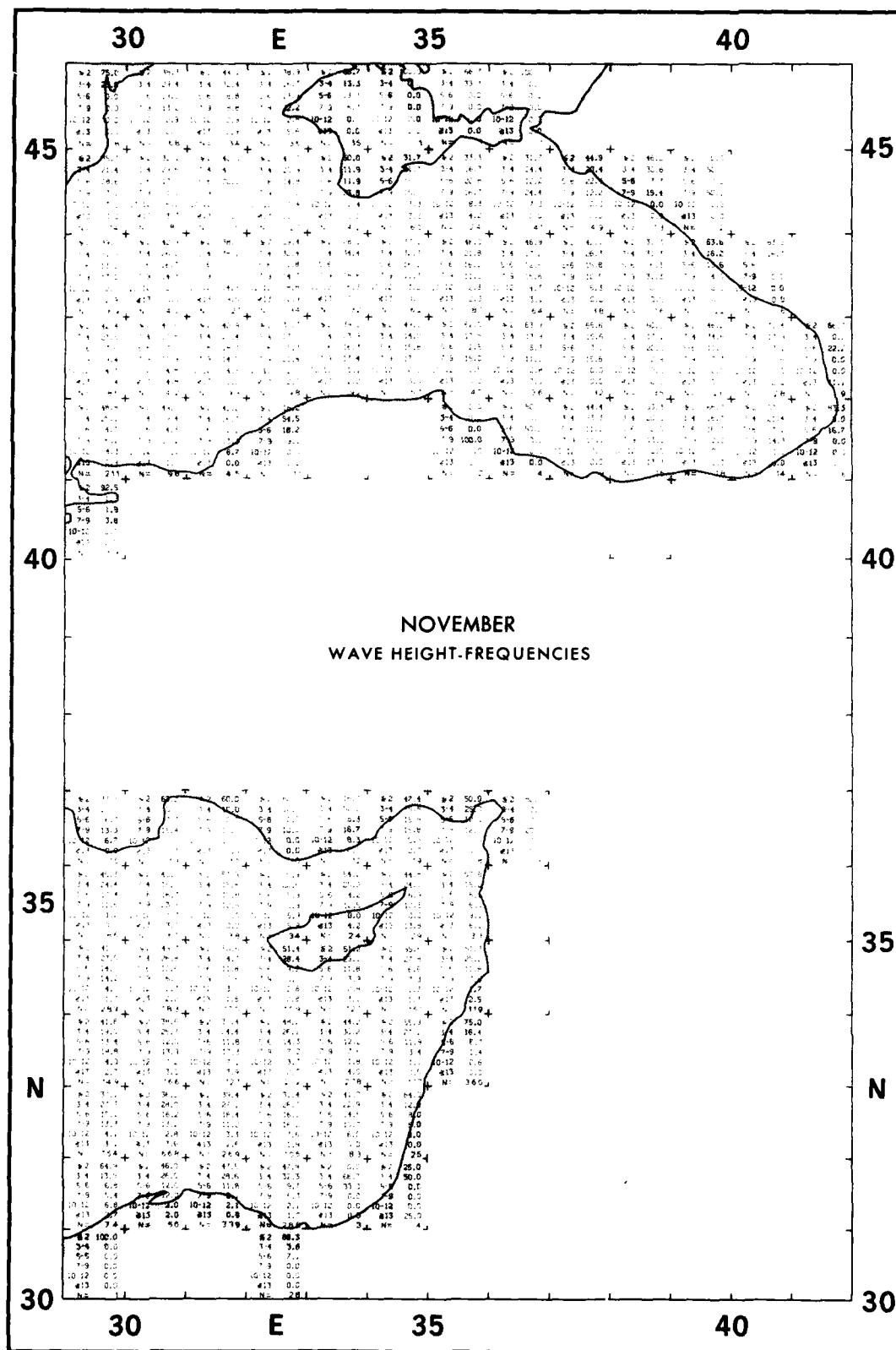


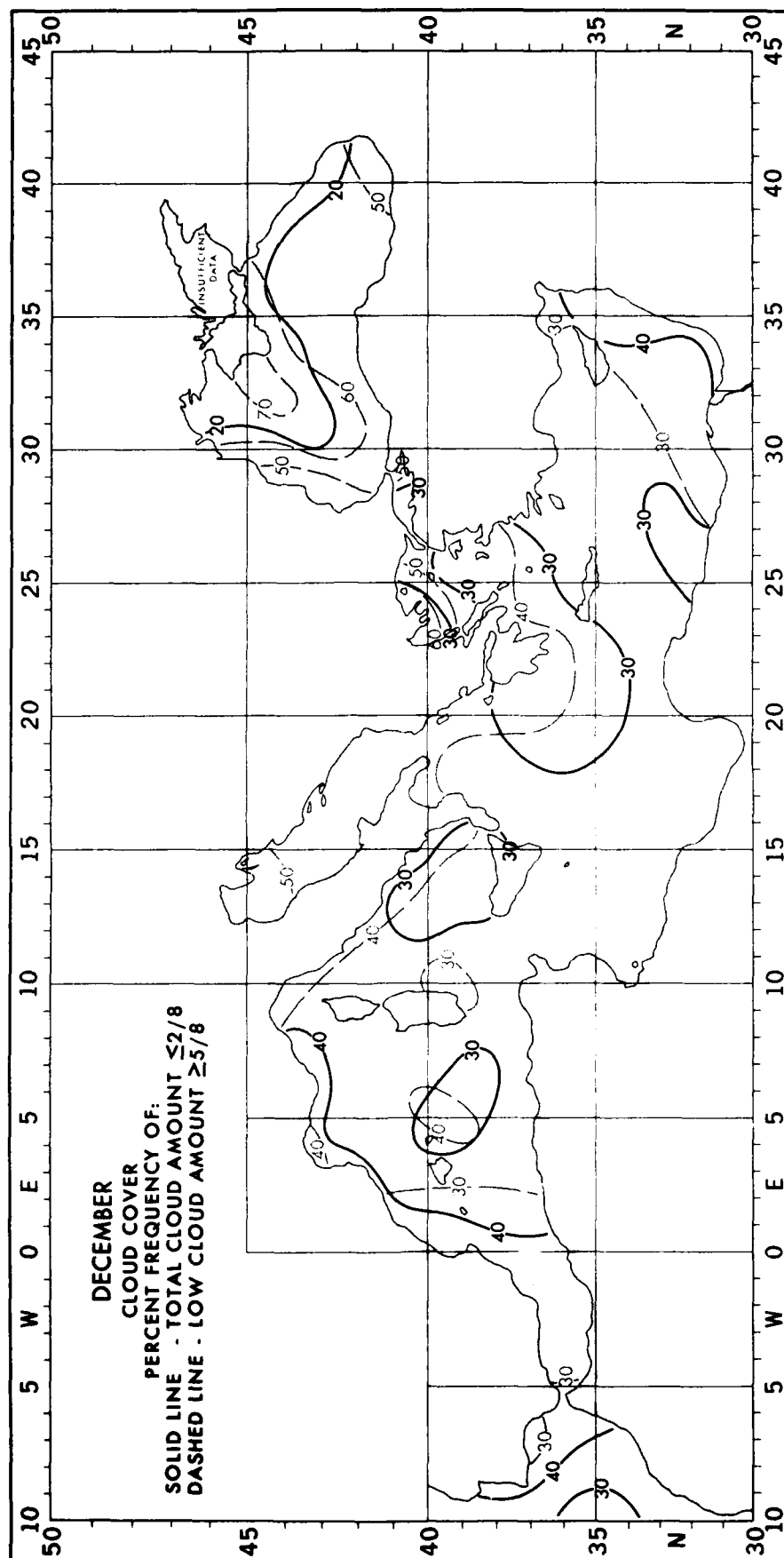


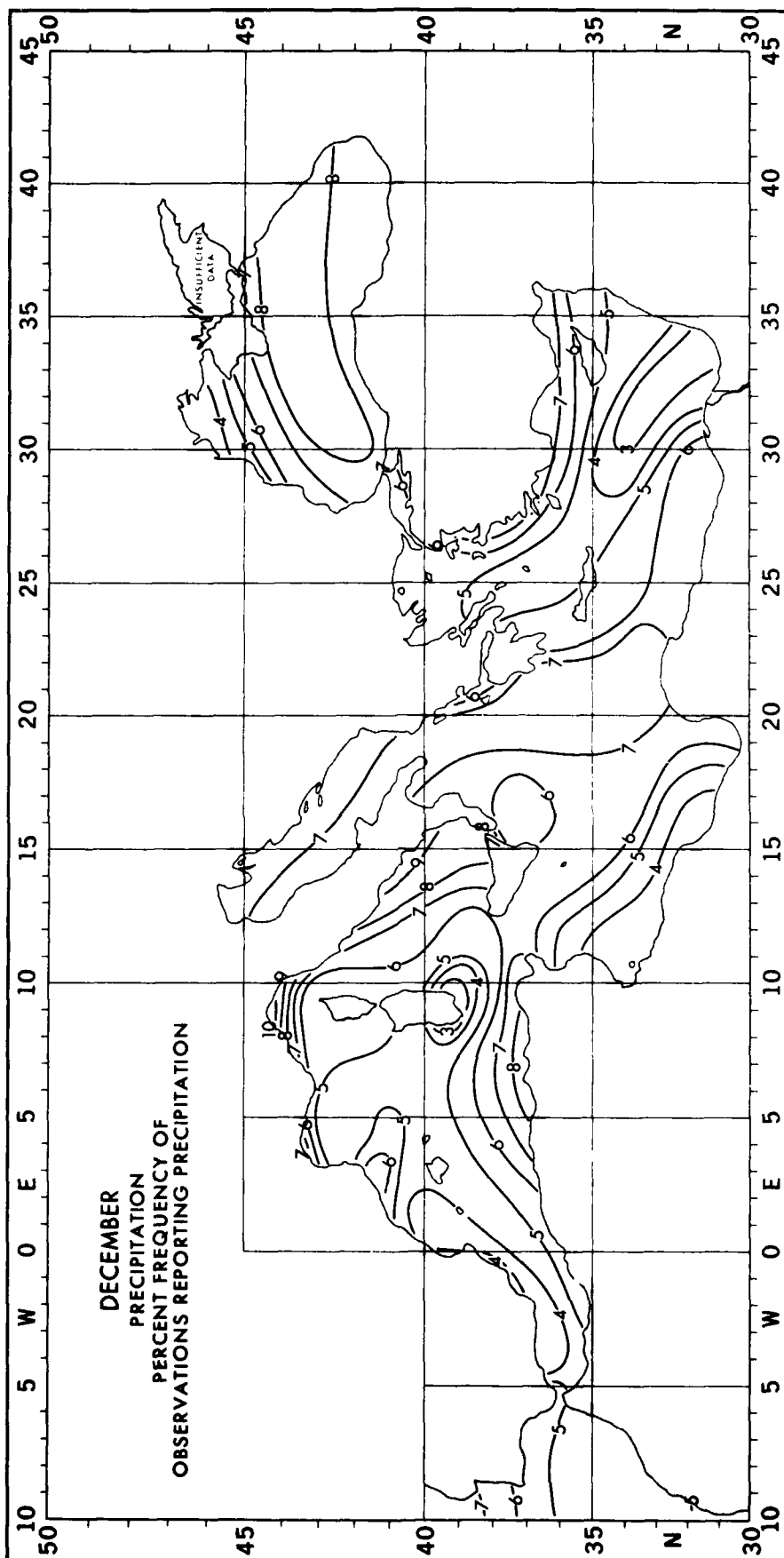


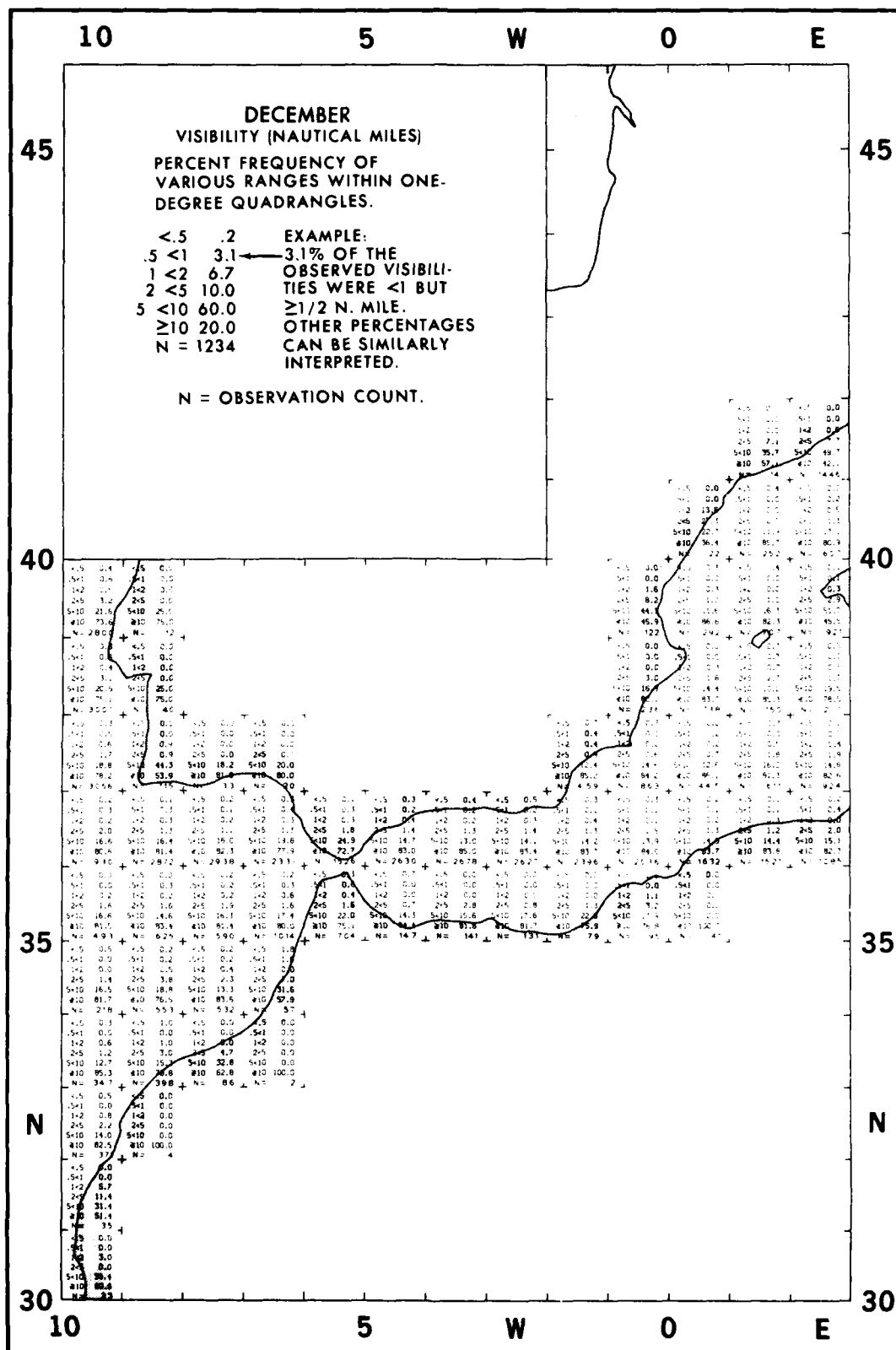


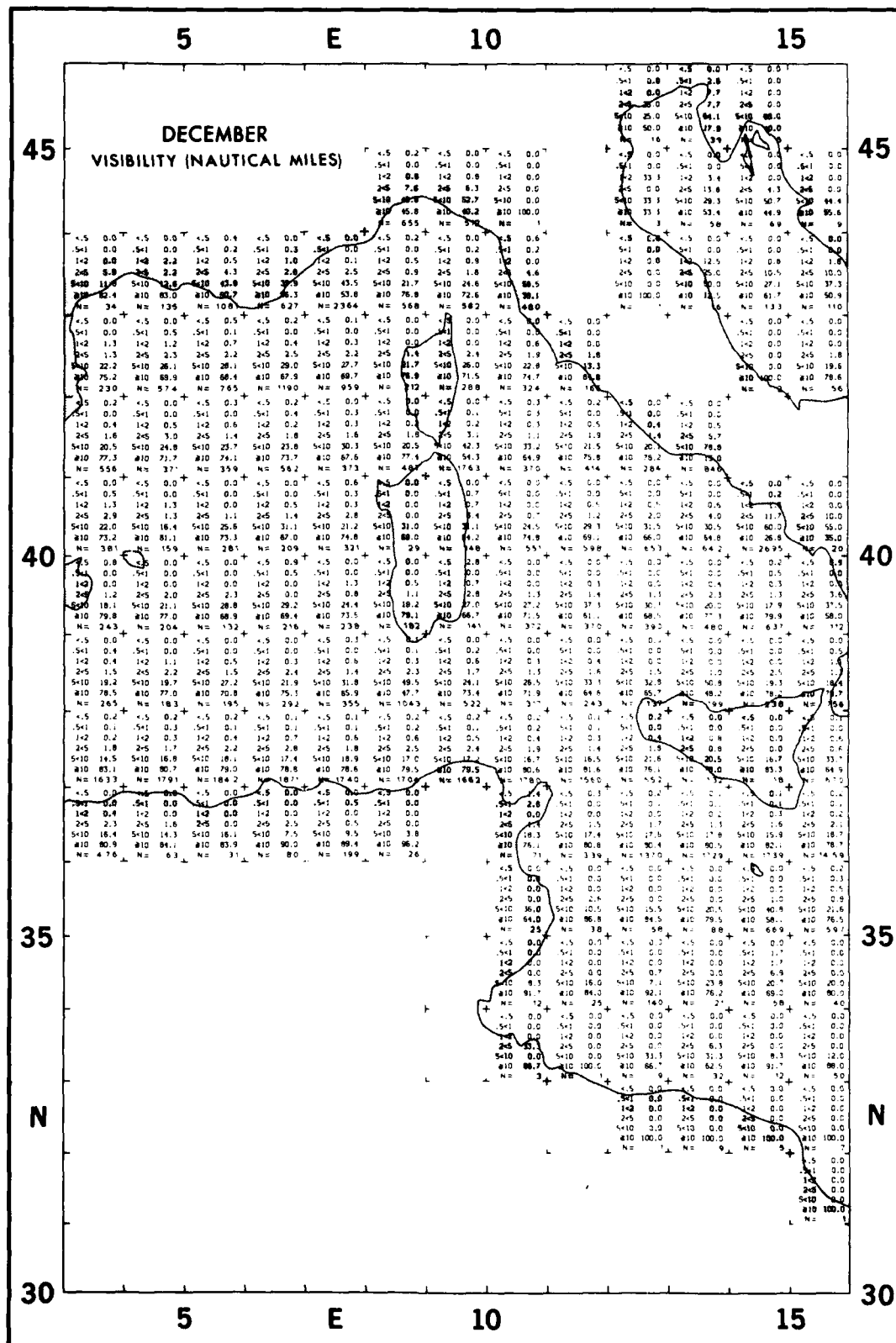


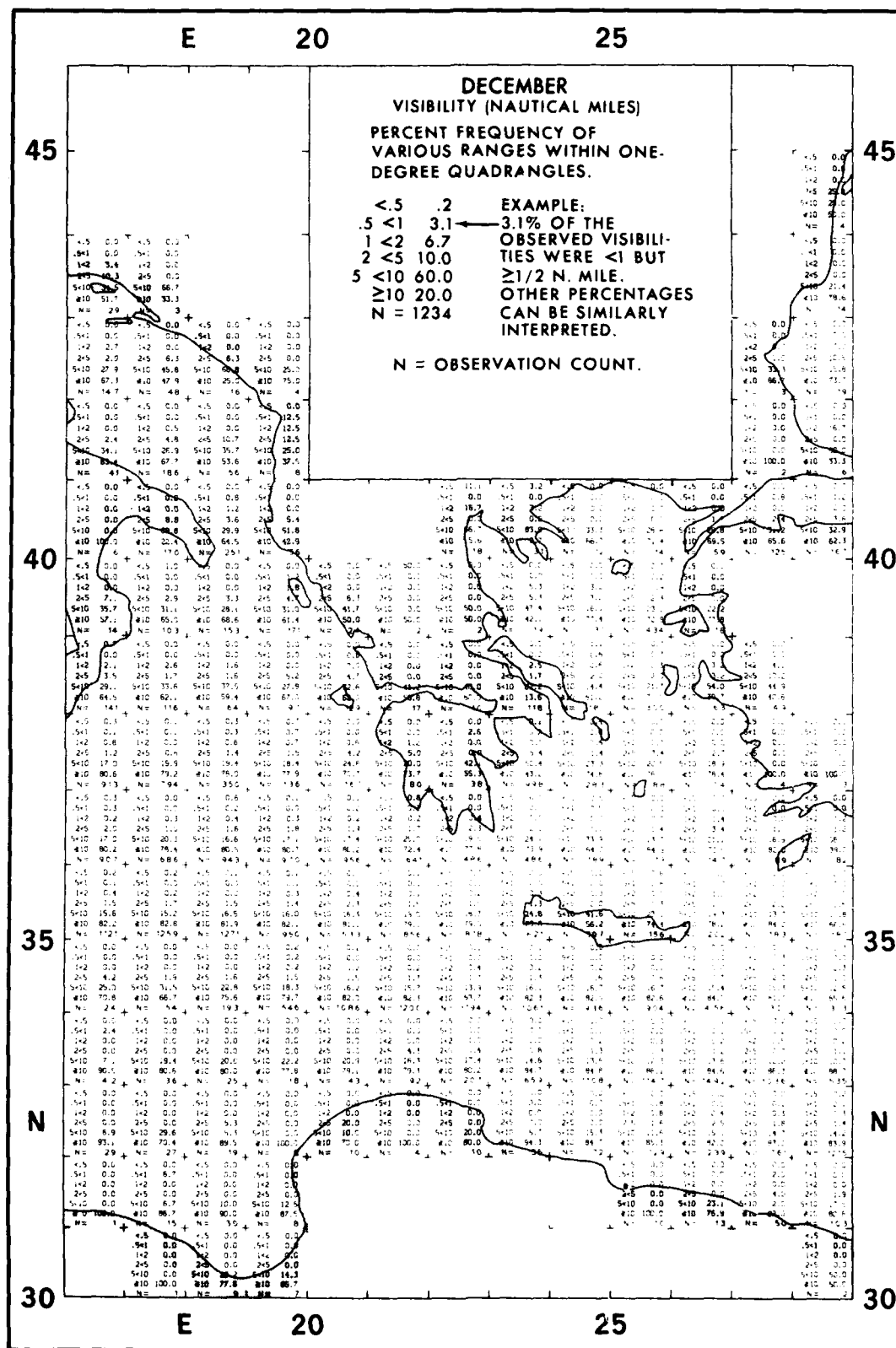


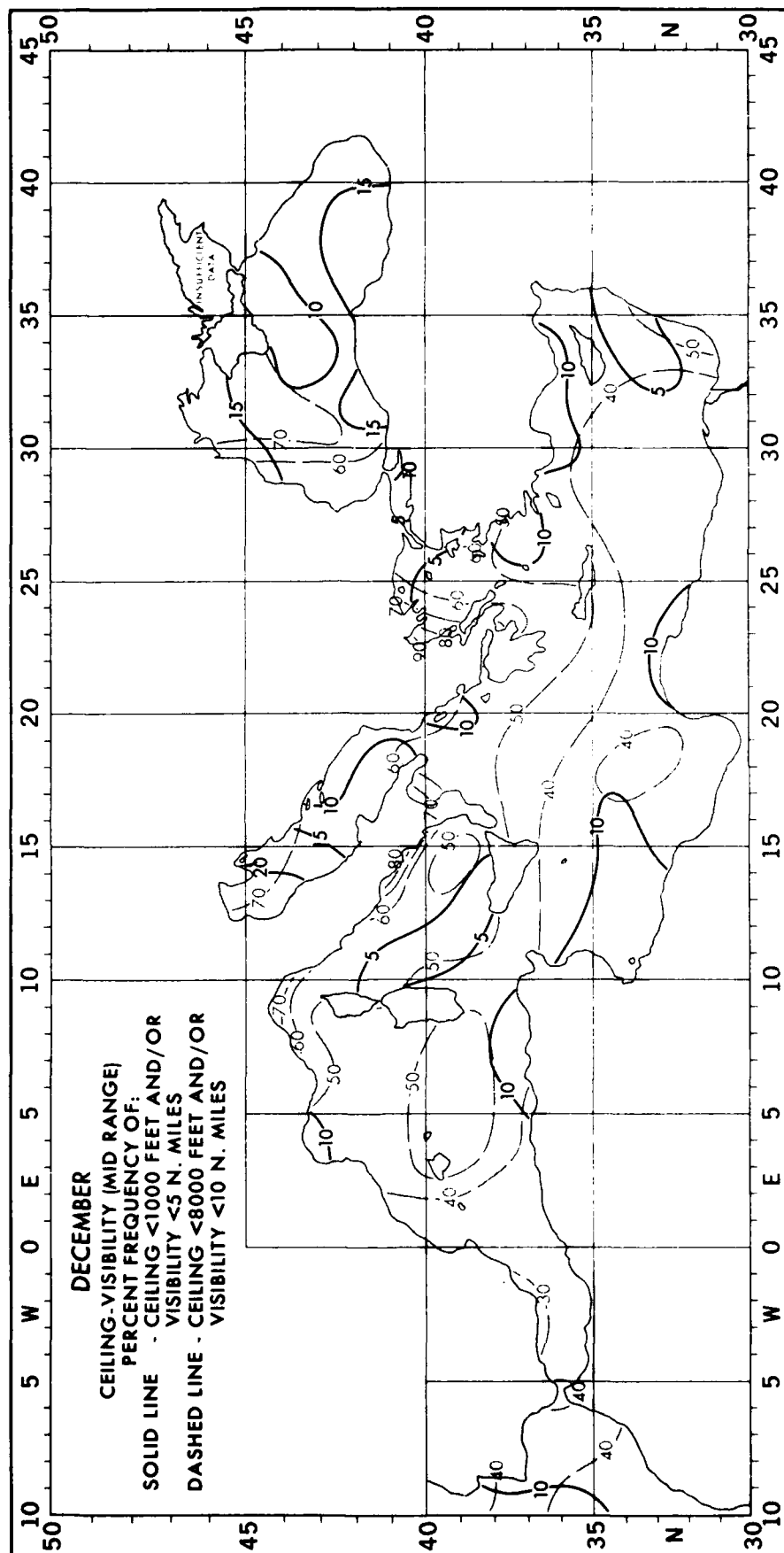


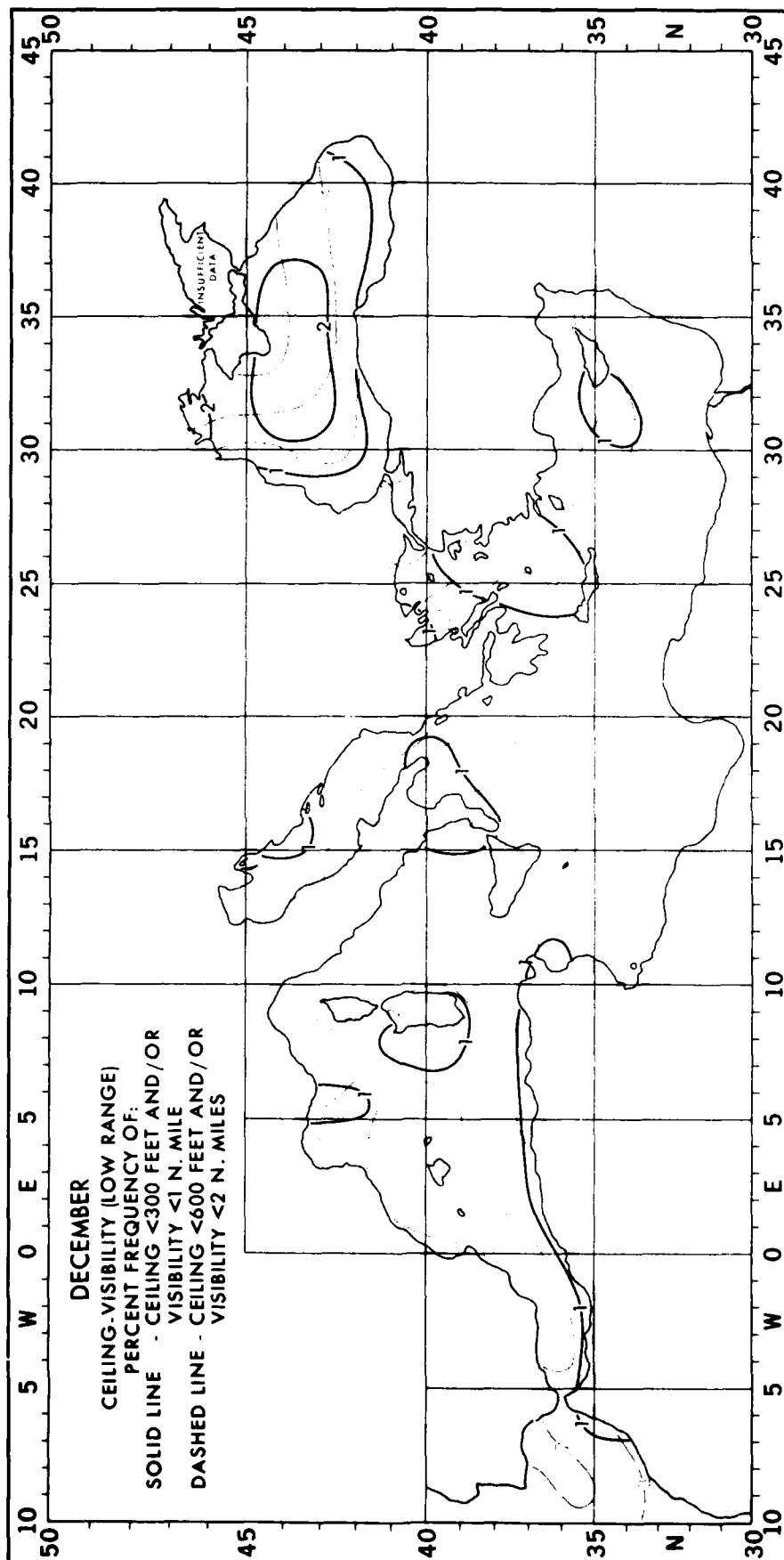


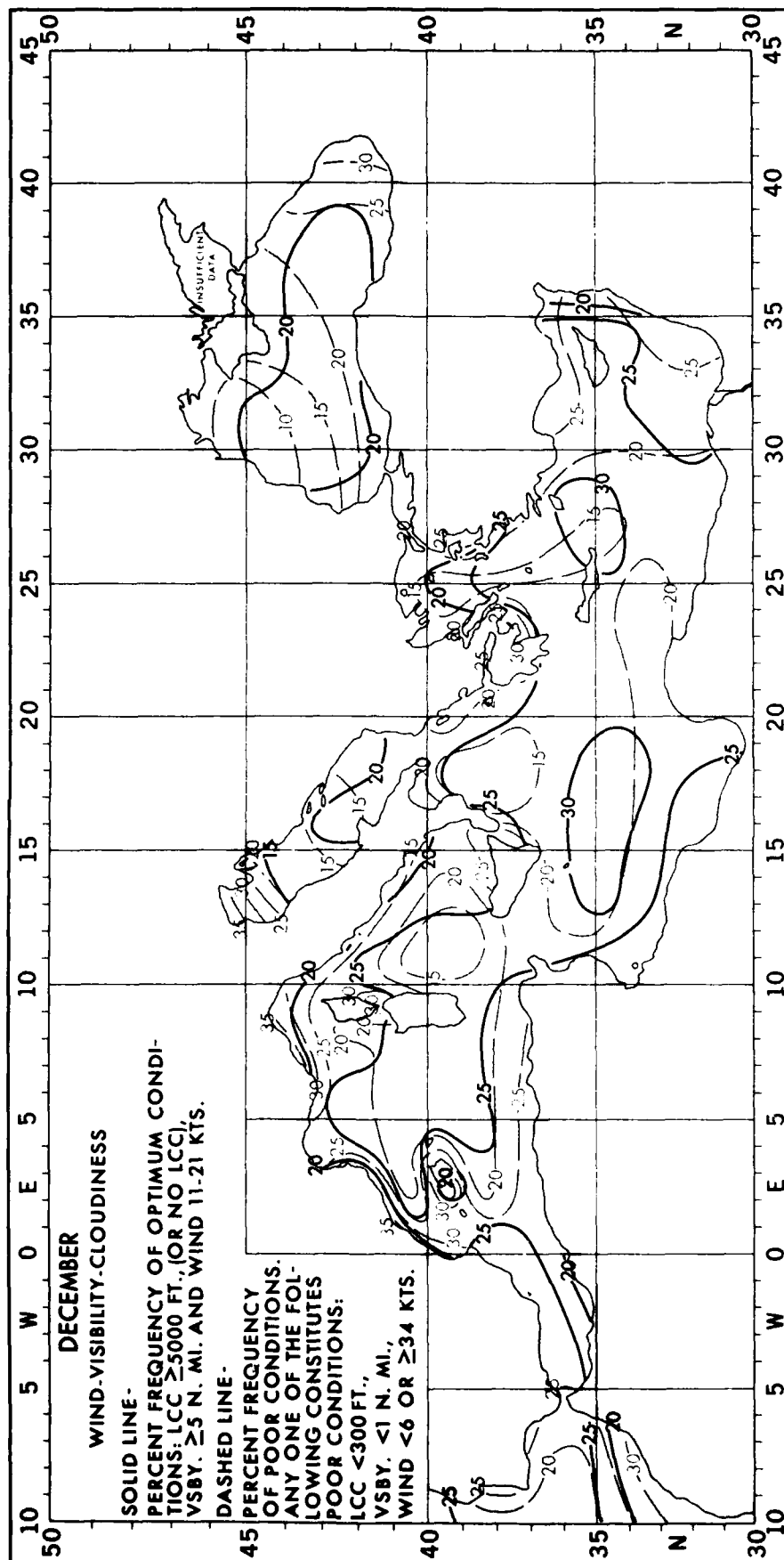


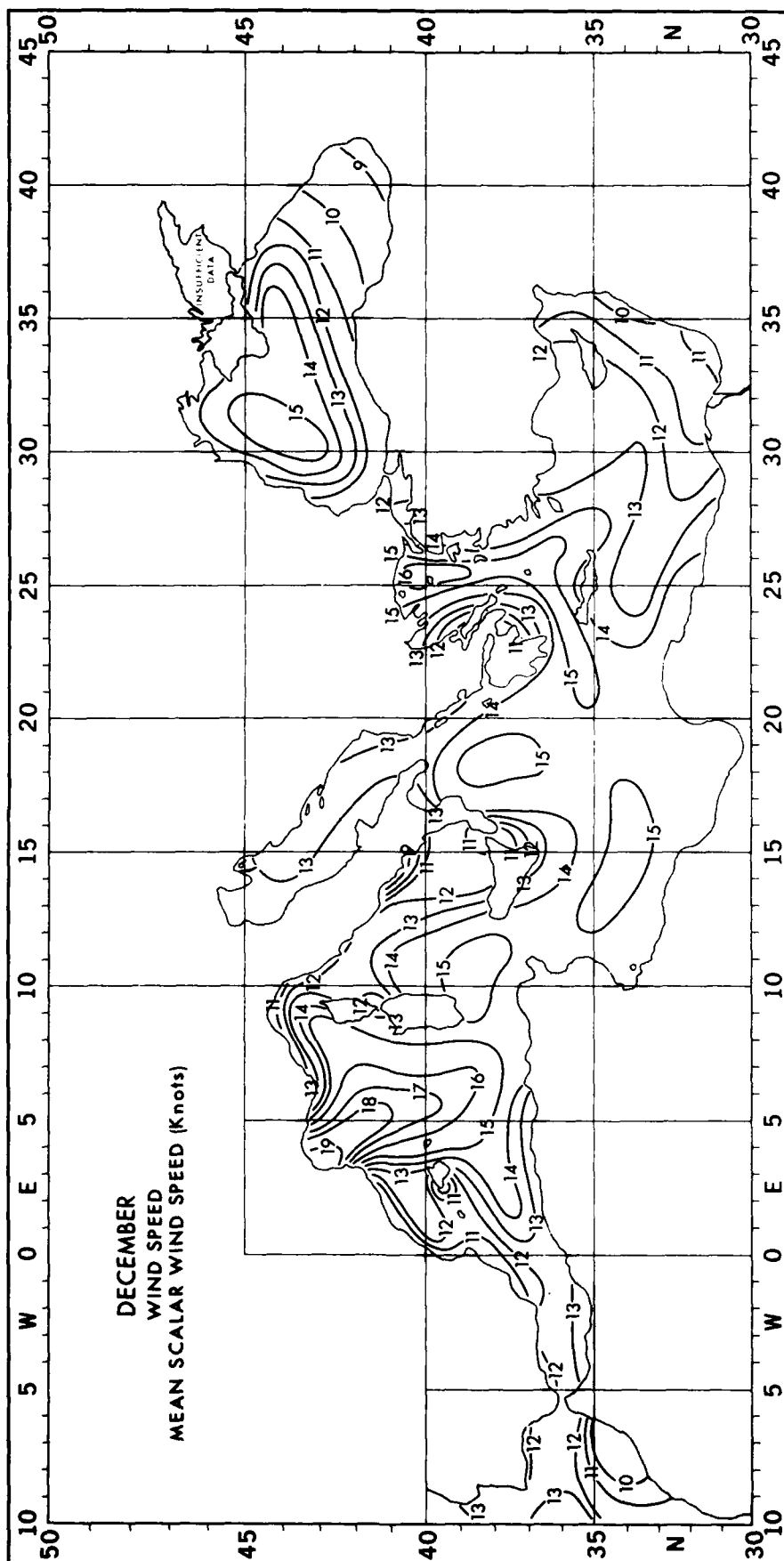


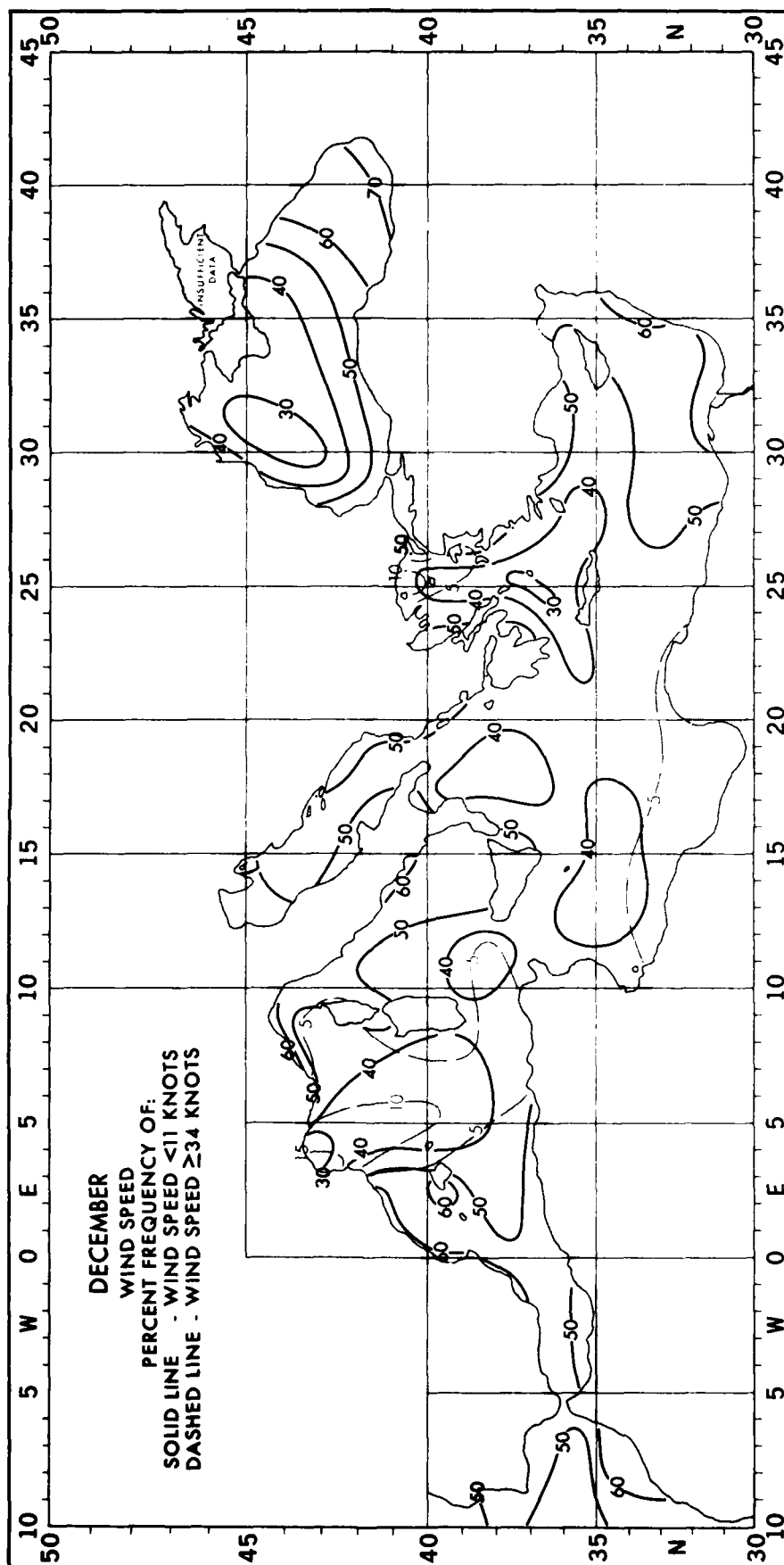


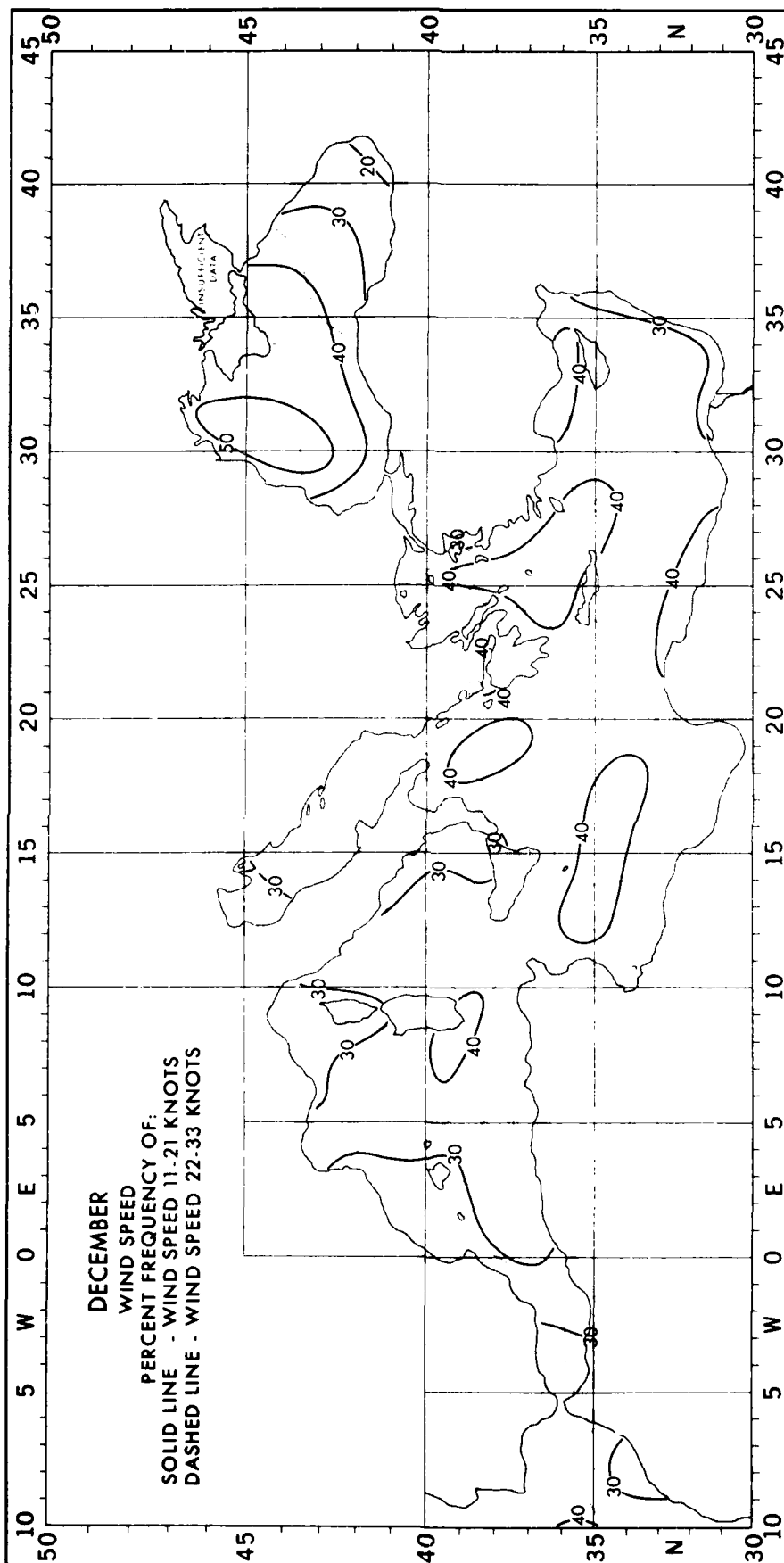


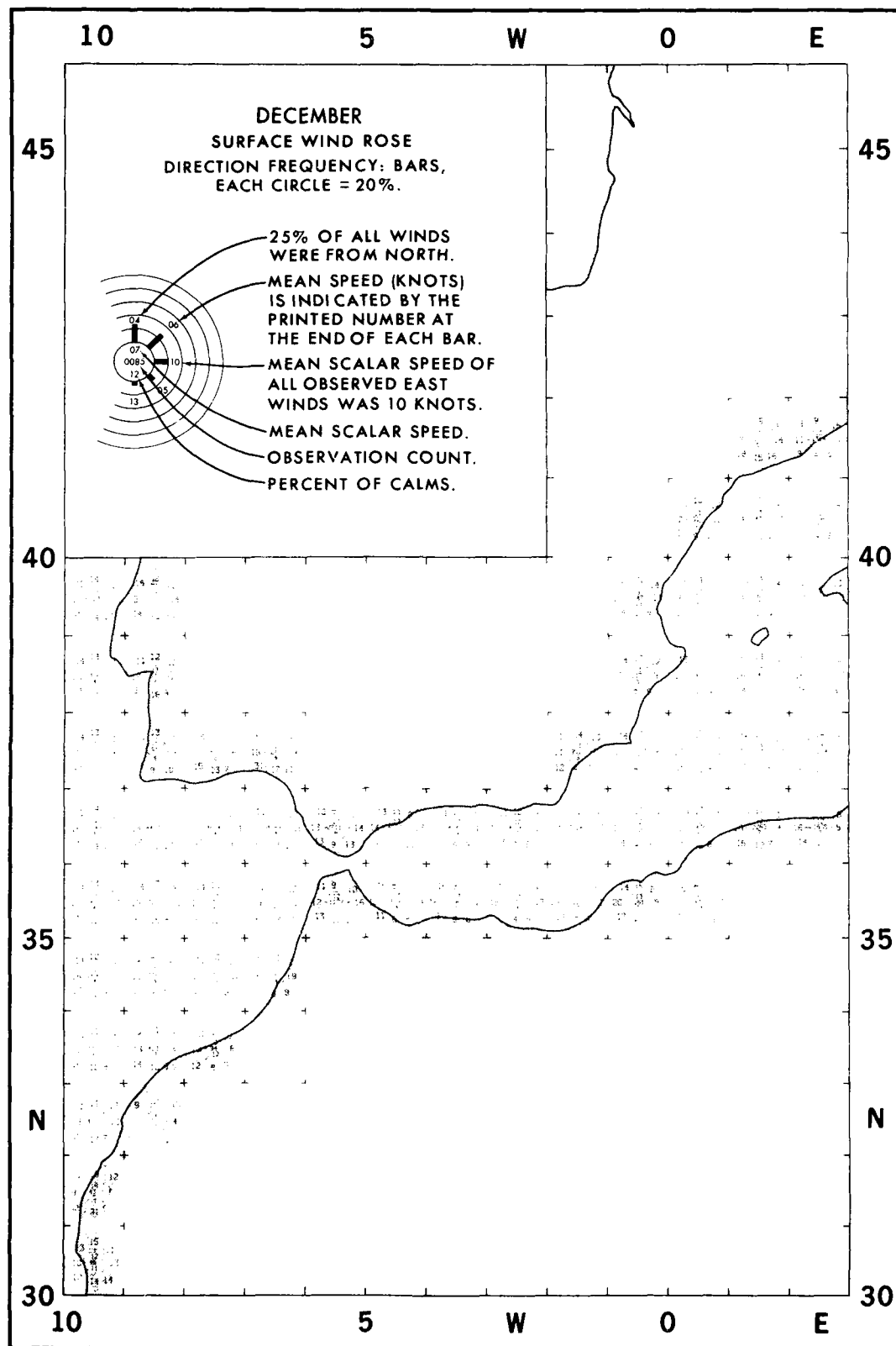


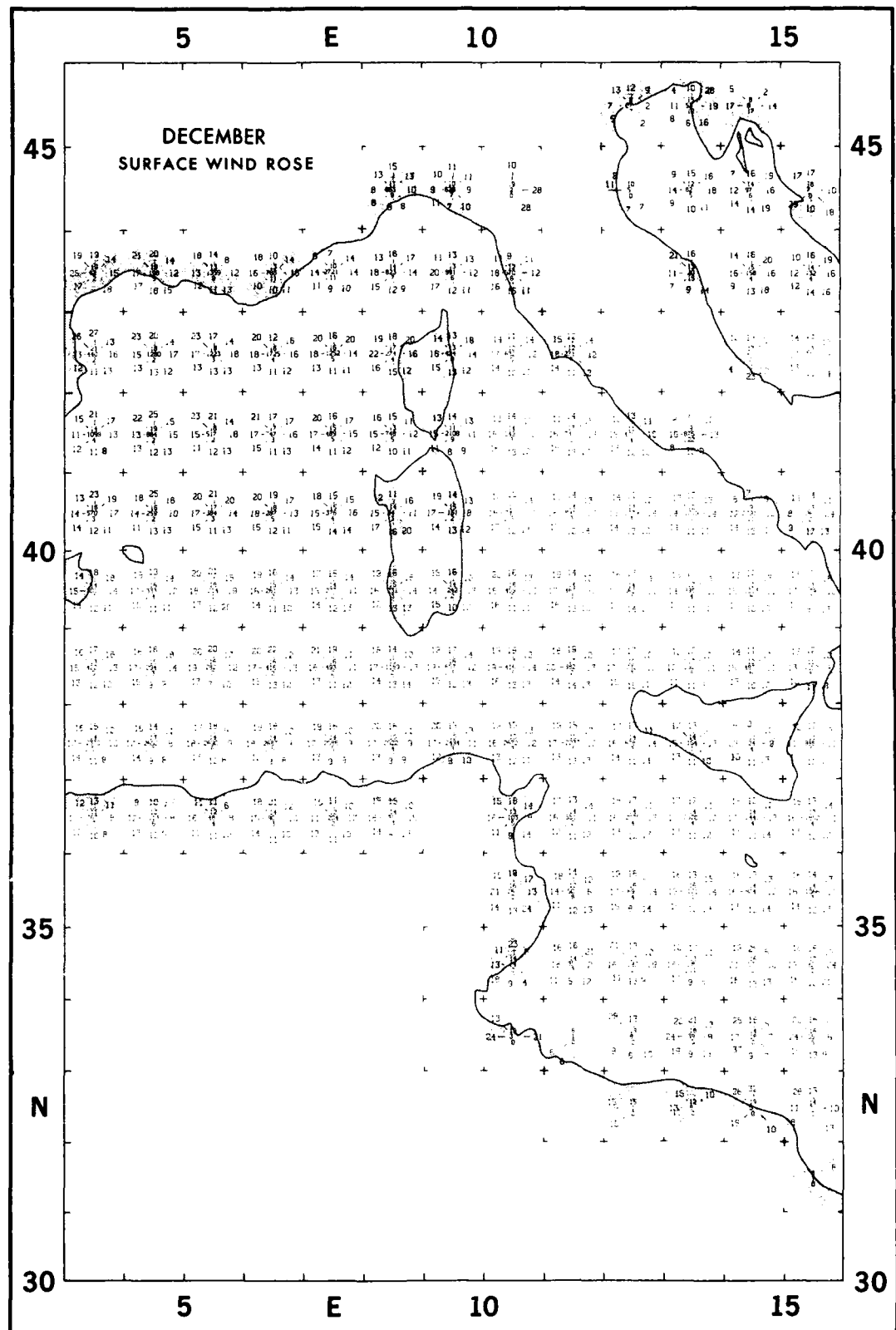


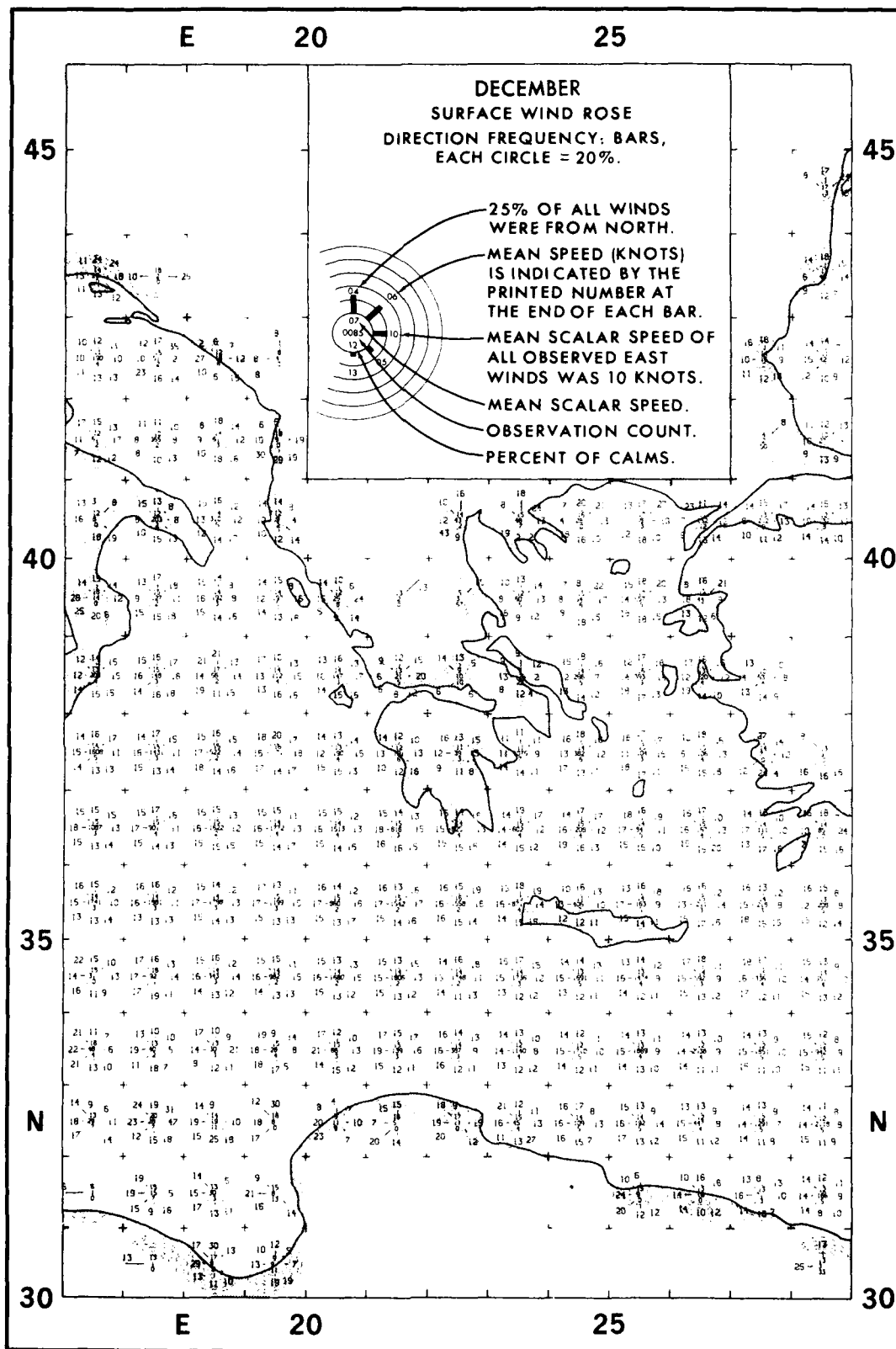


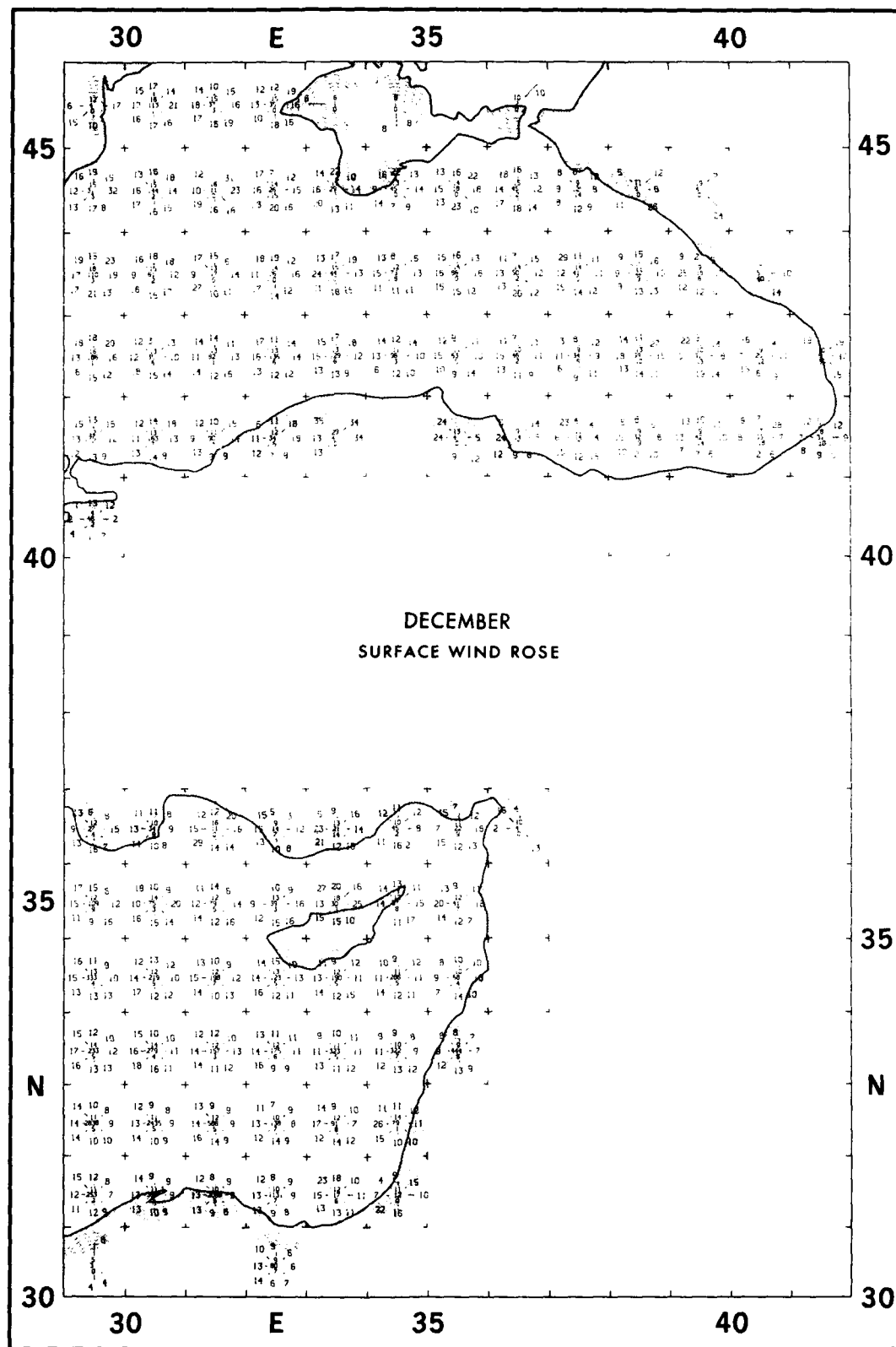


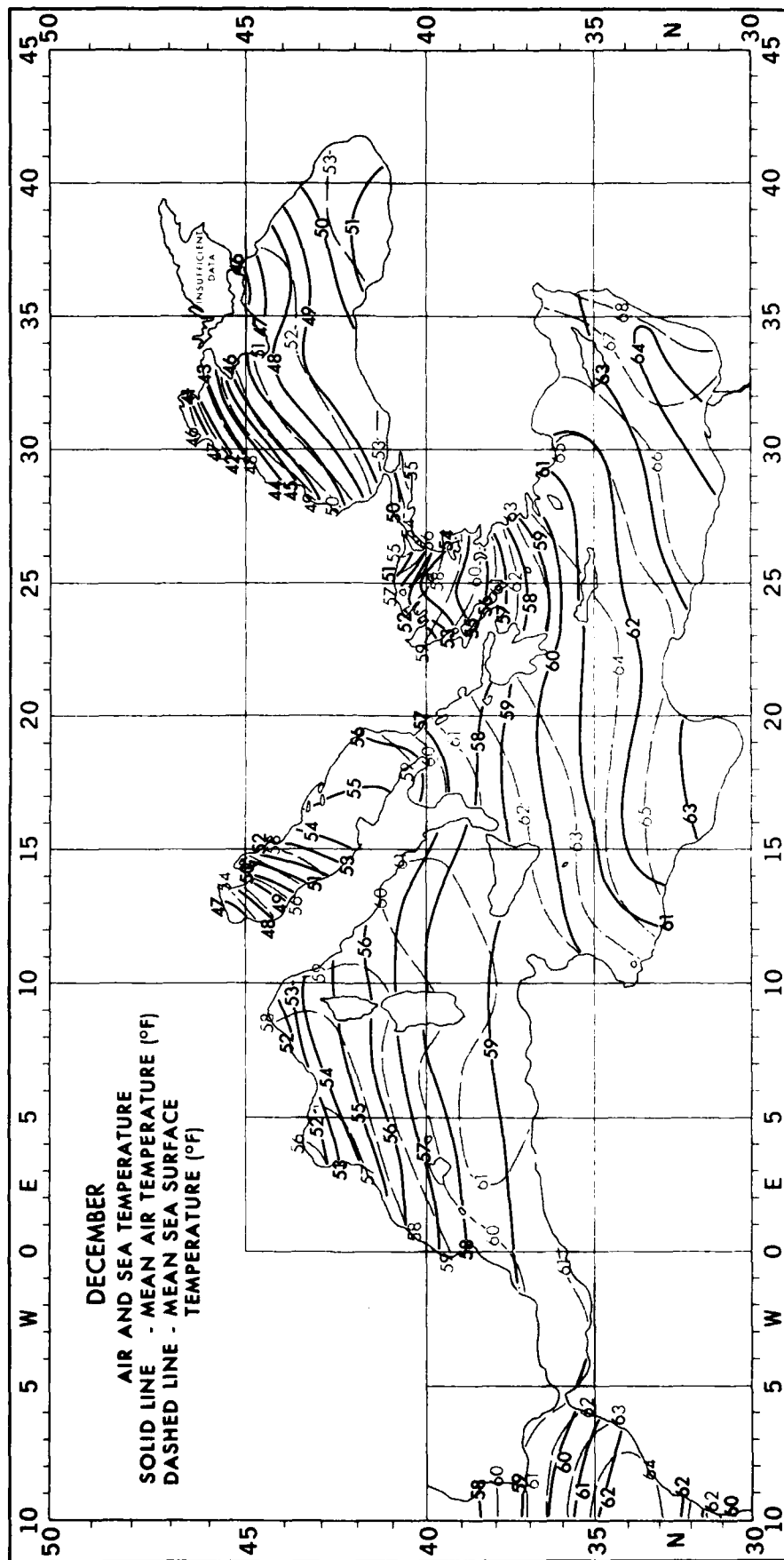


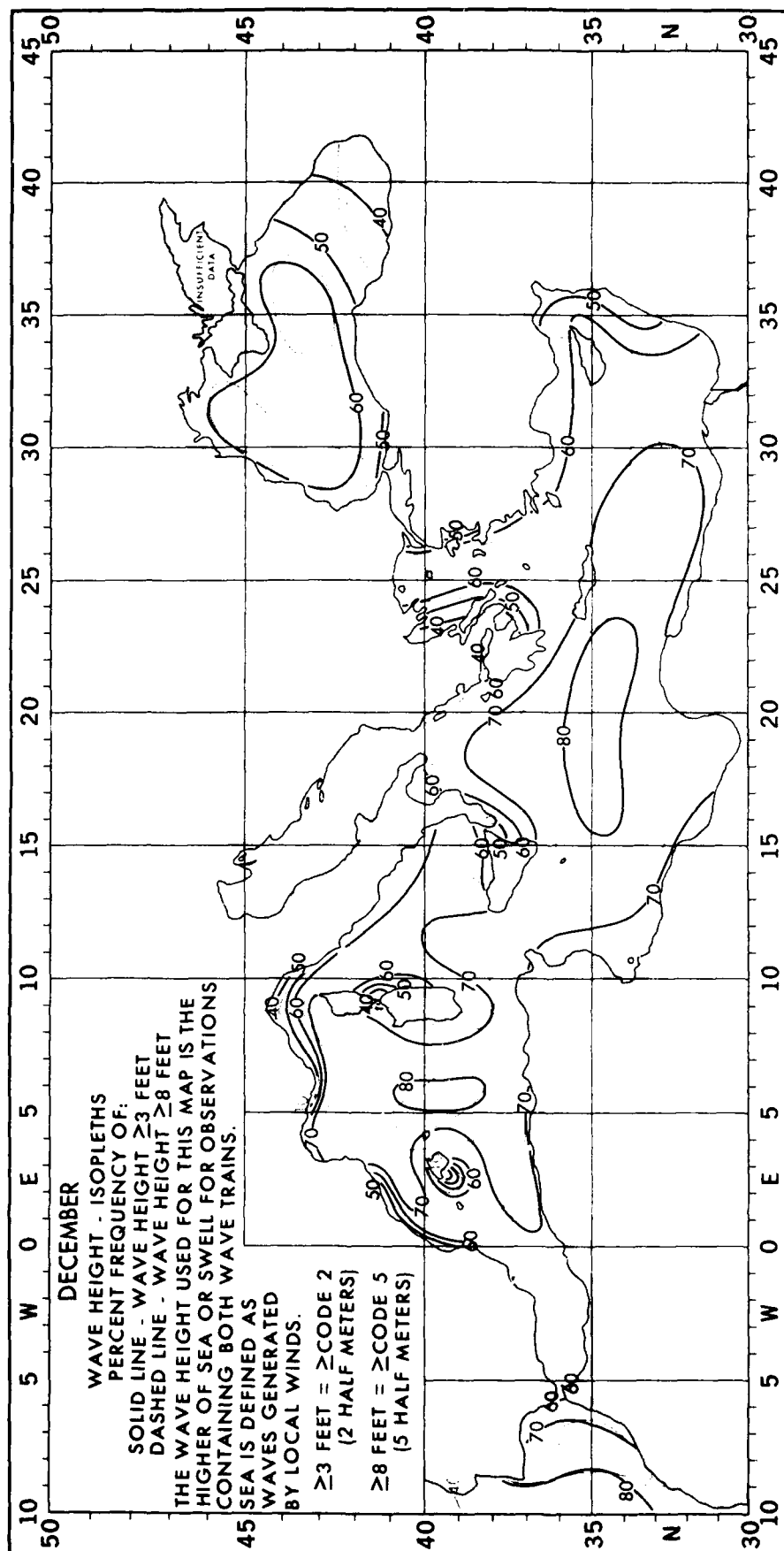


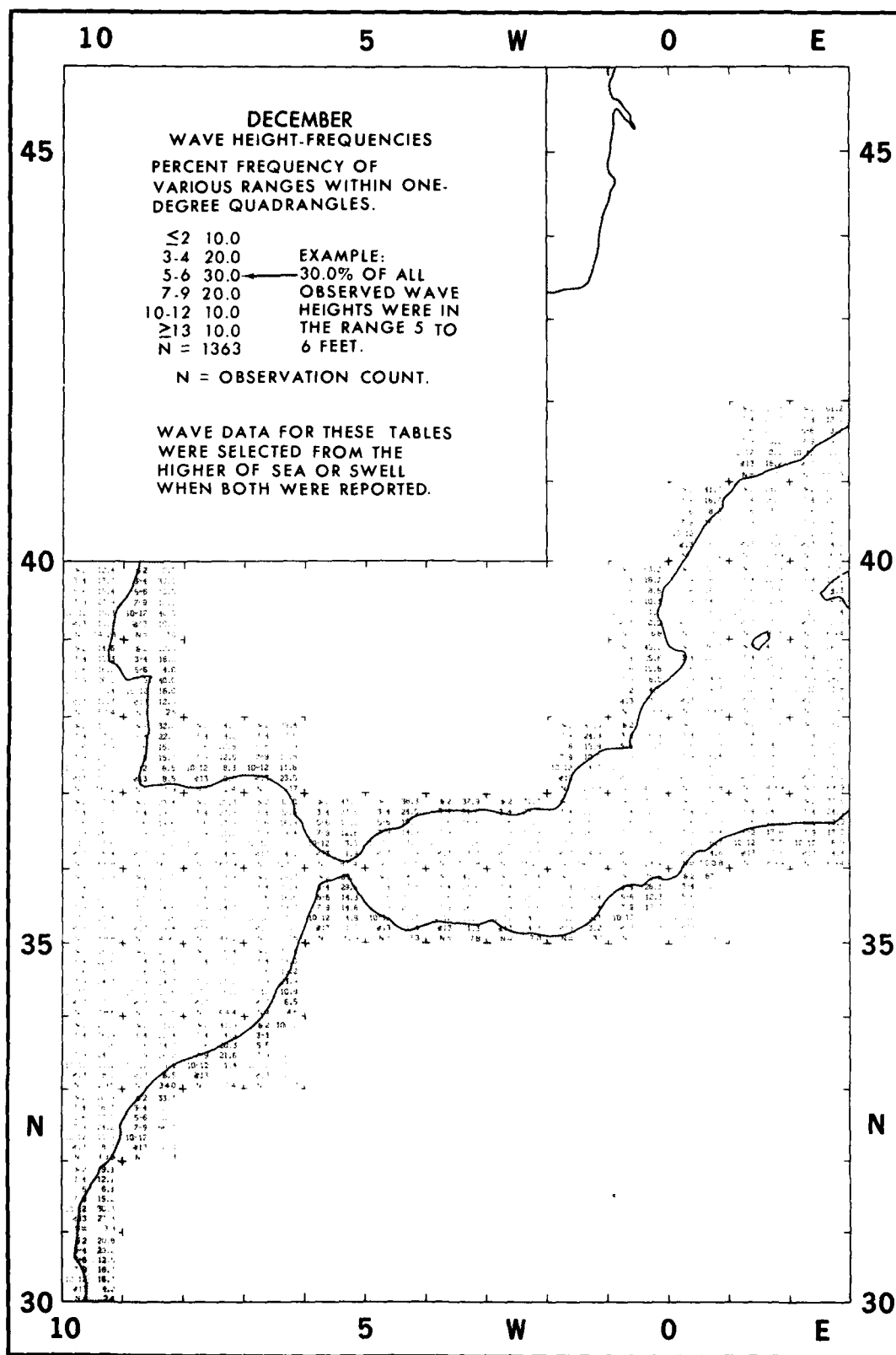


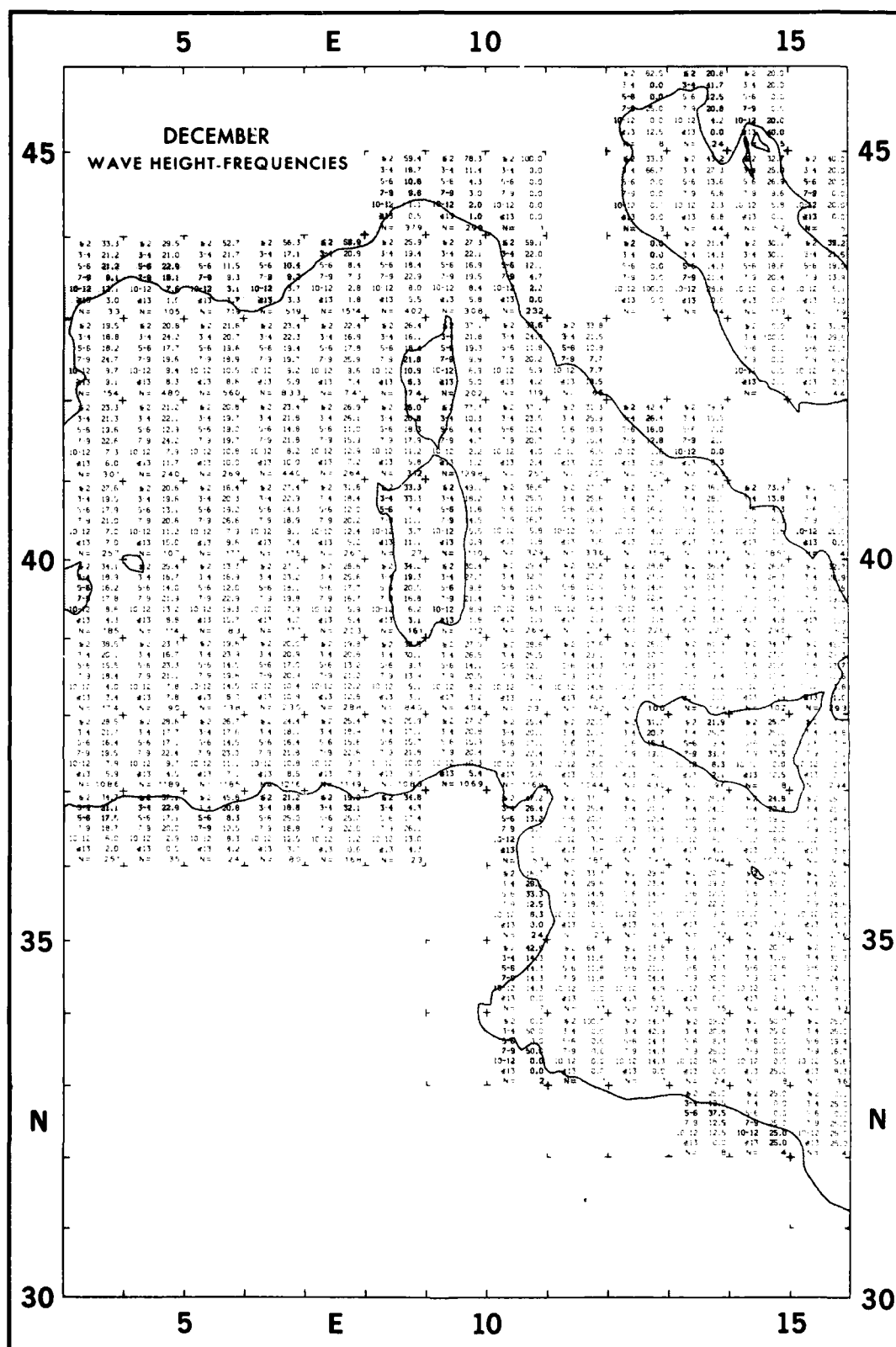


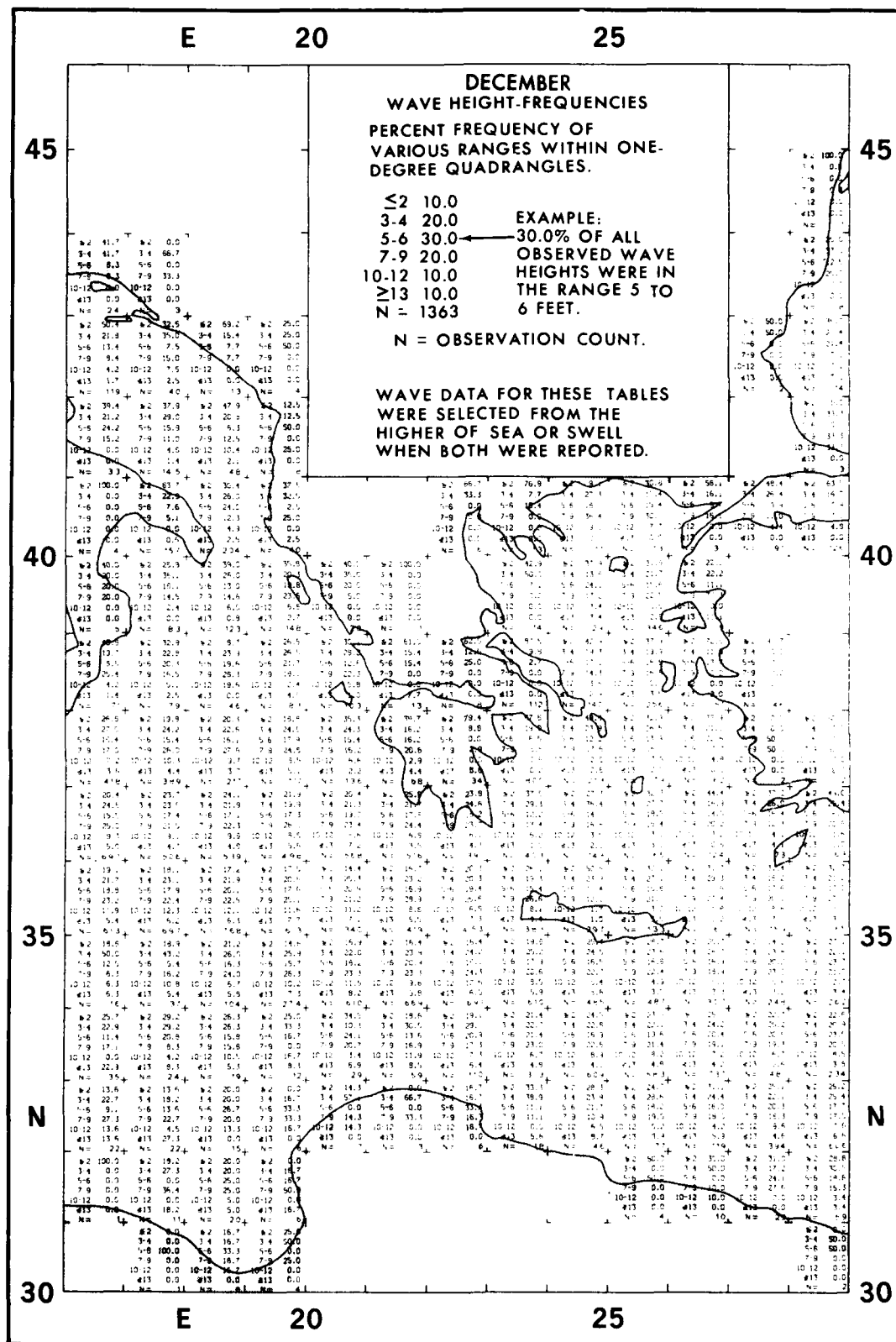


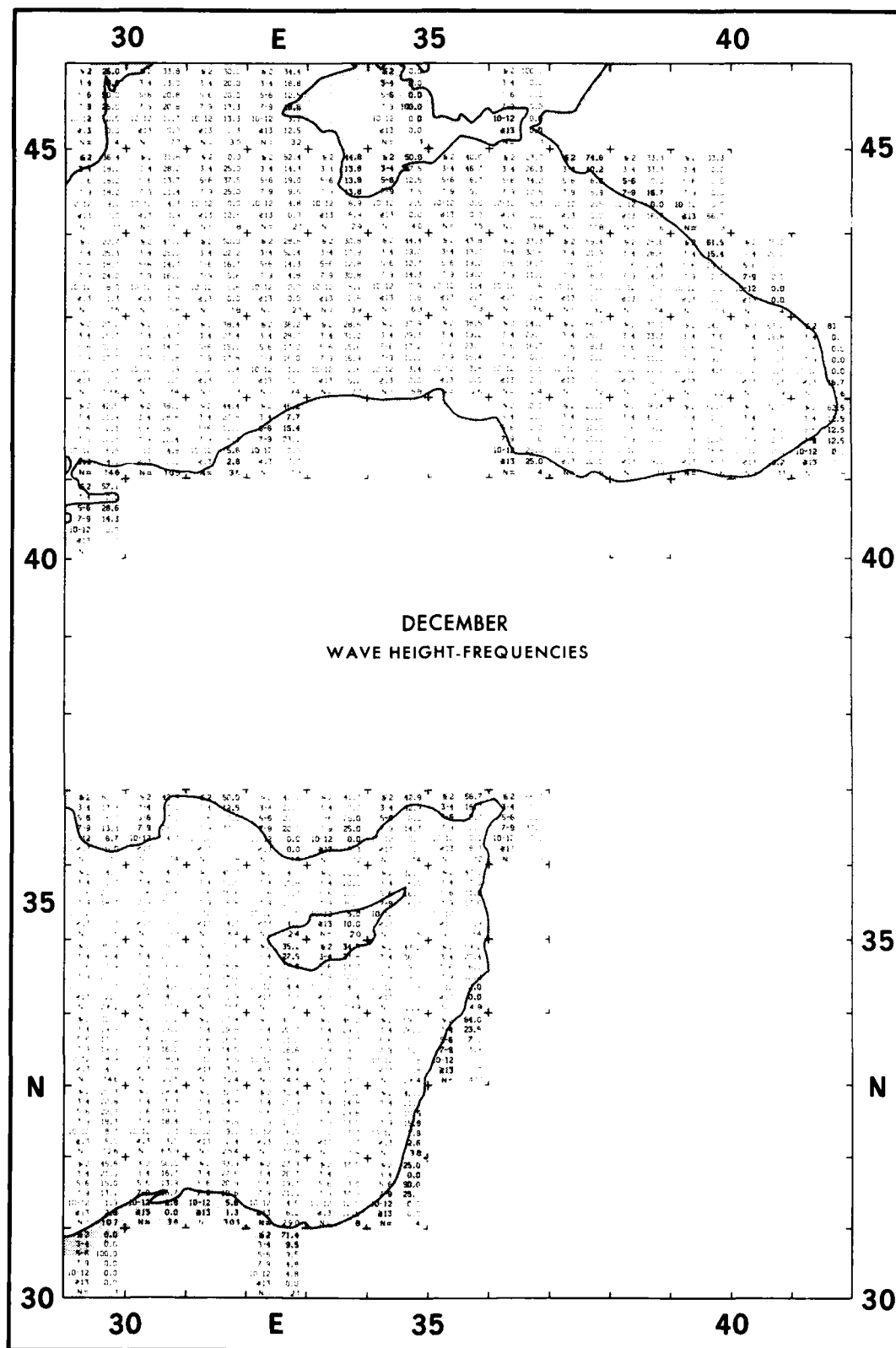


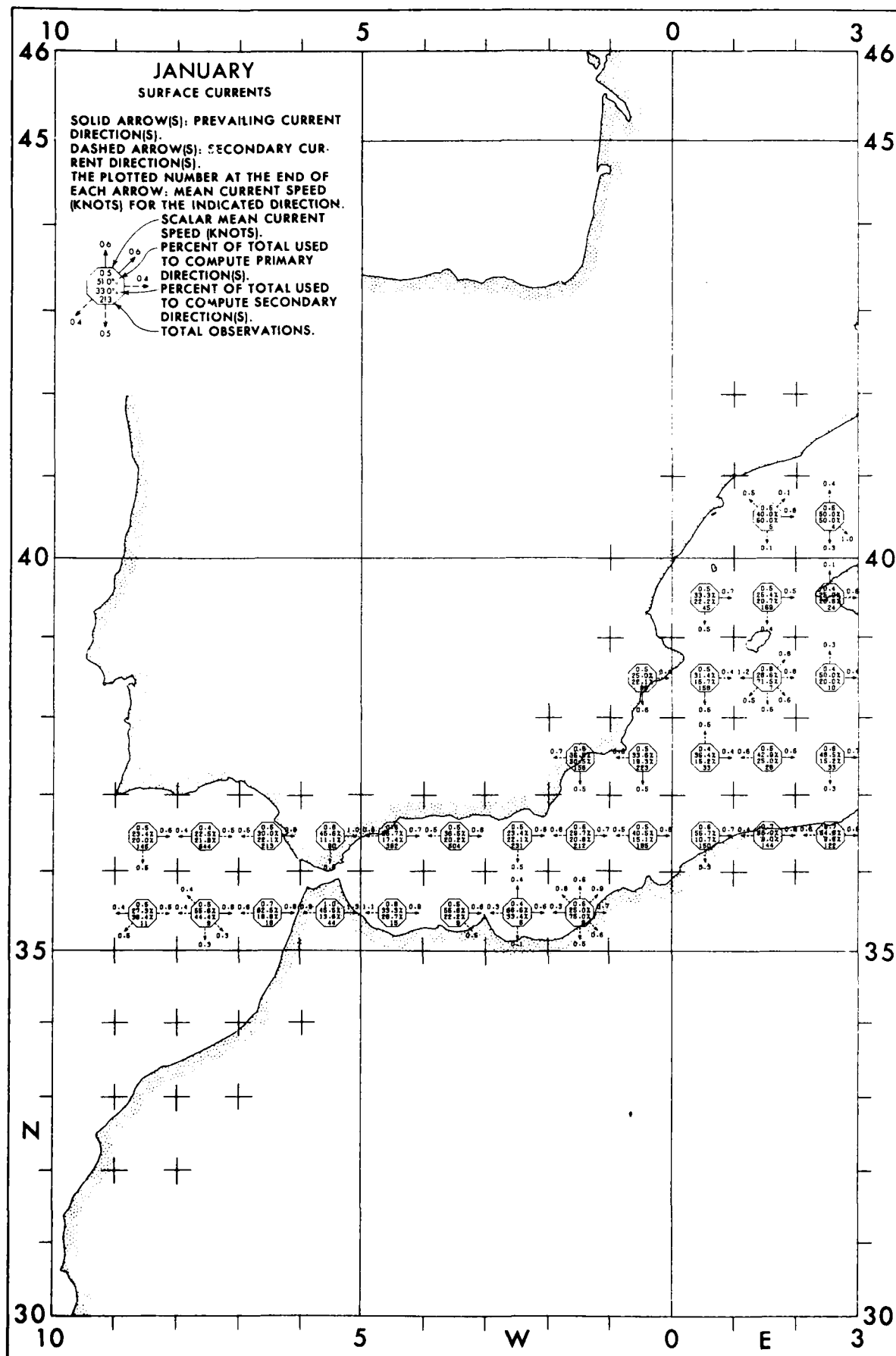


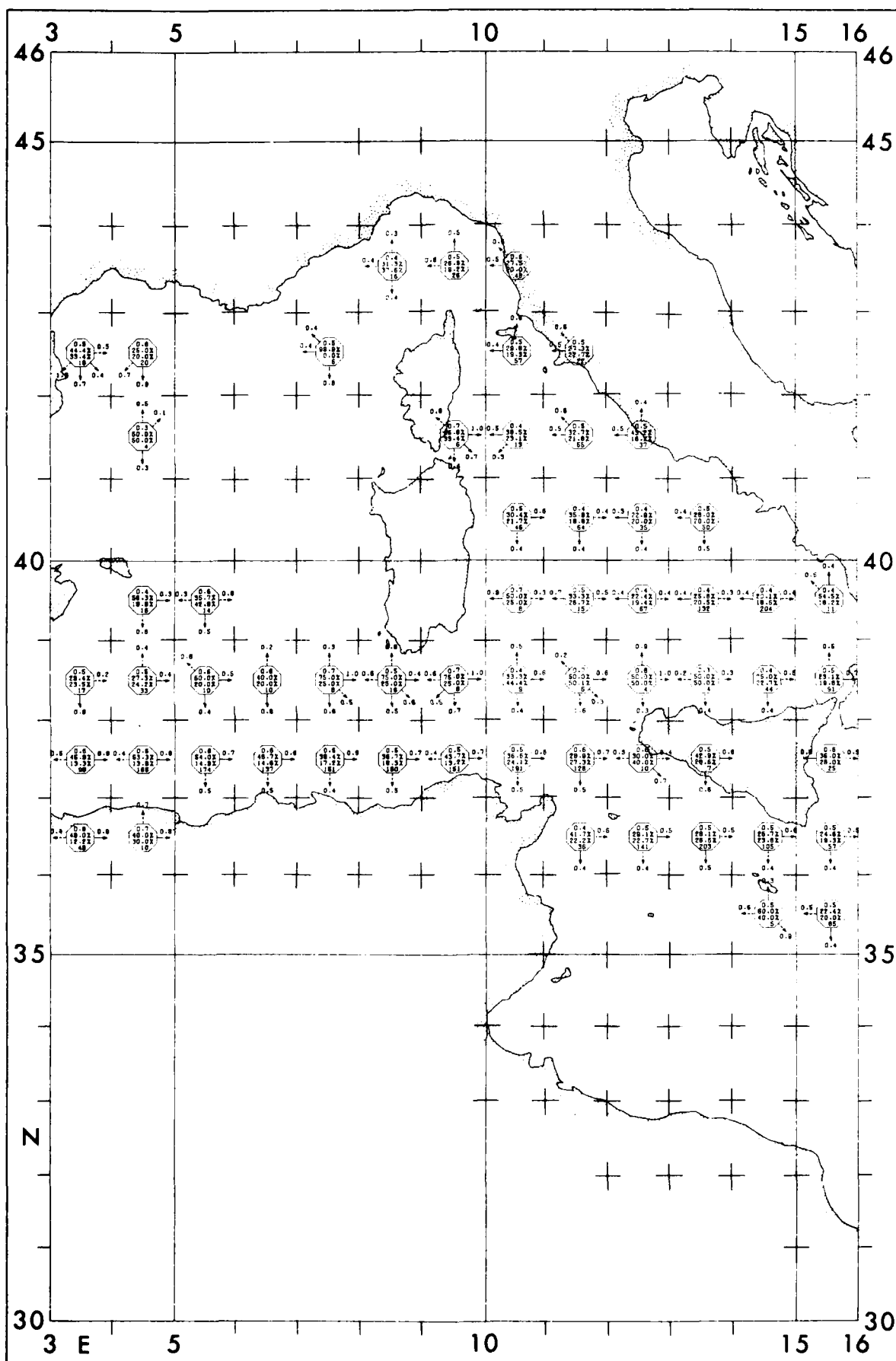


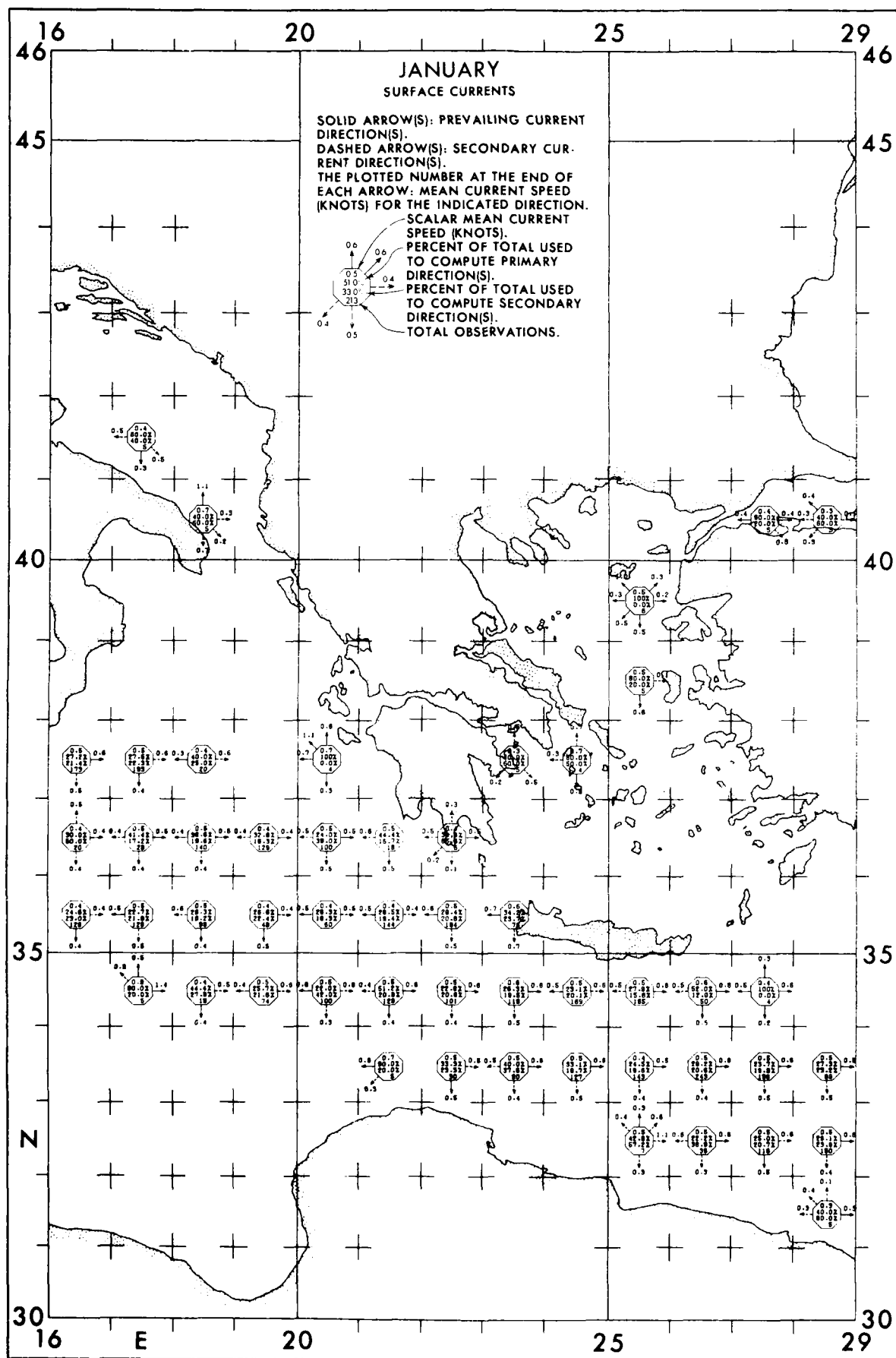


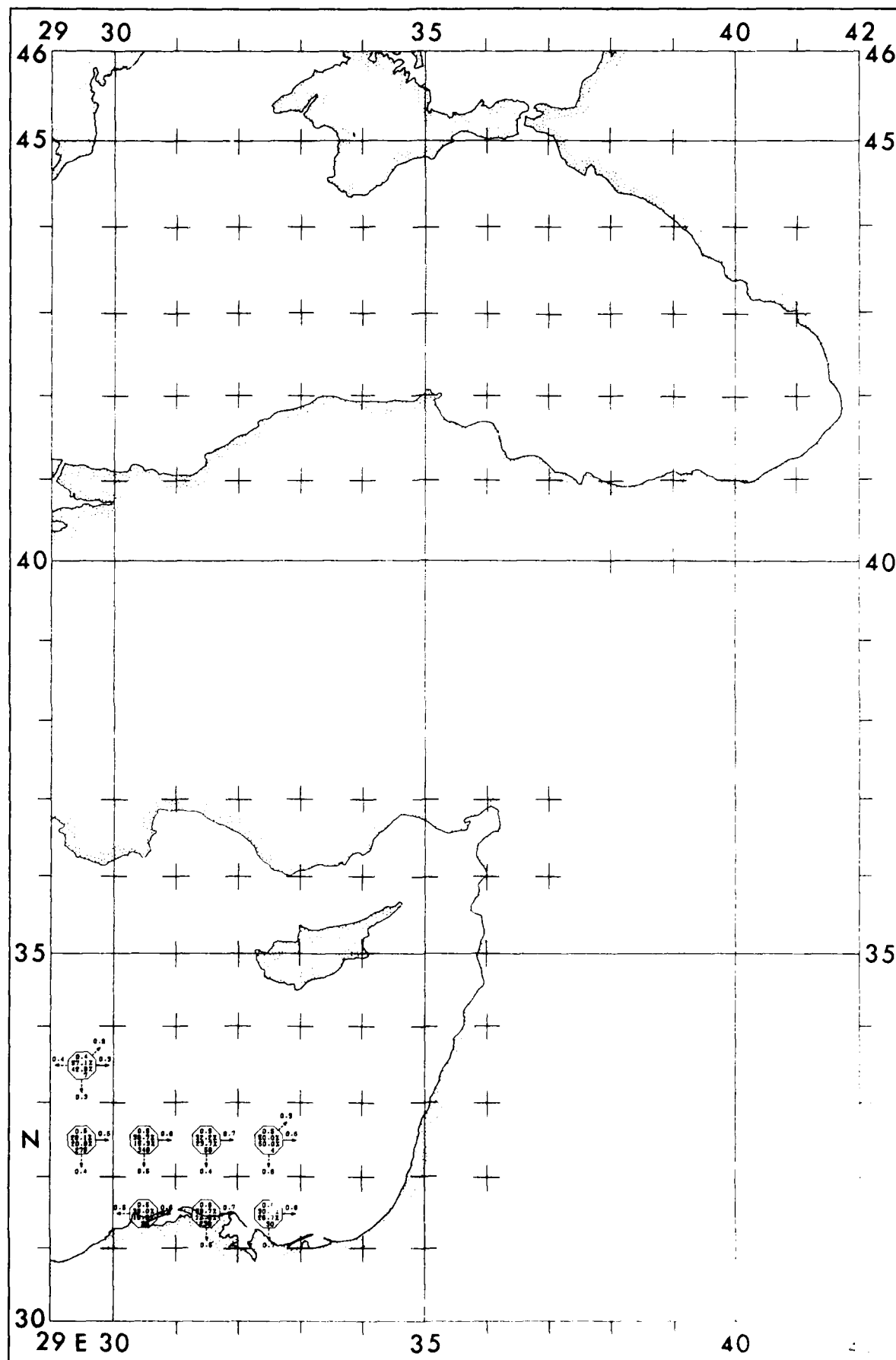












AD-A188 264

US NAVY CLIMATIC STUDY OF THE MEDITERRANEAN SEA(U)
NAVAL OCEANOGRAPHY COMMAND NSIL STATION NS JUL 87
NAVAIR-58-1C-547

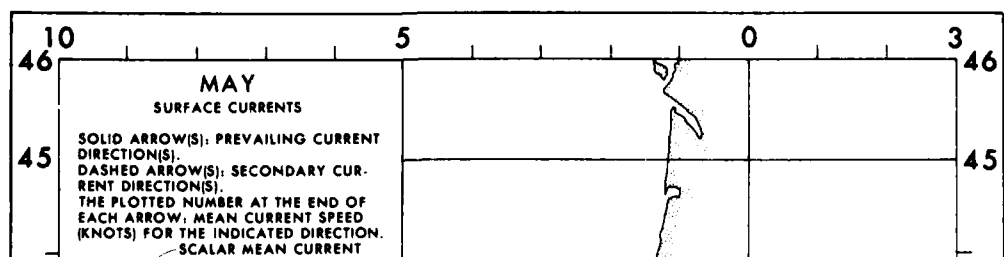
4/4

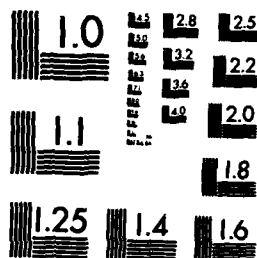
UNCLASSIFIED

F/G 4/2

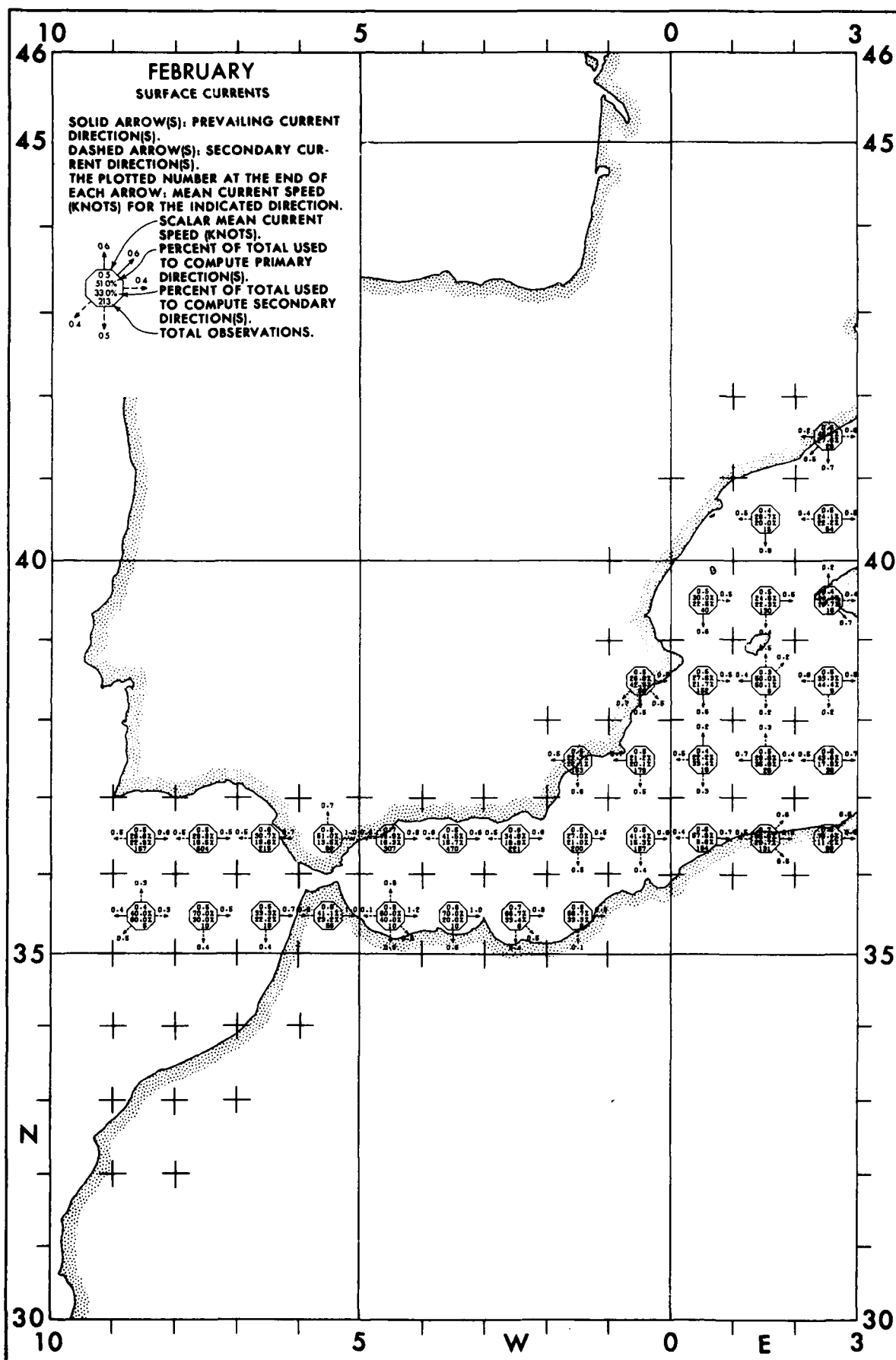
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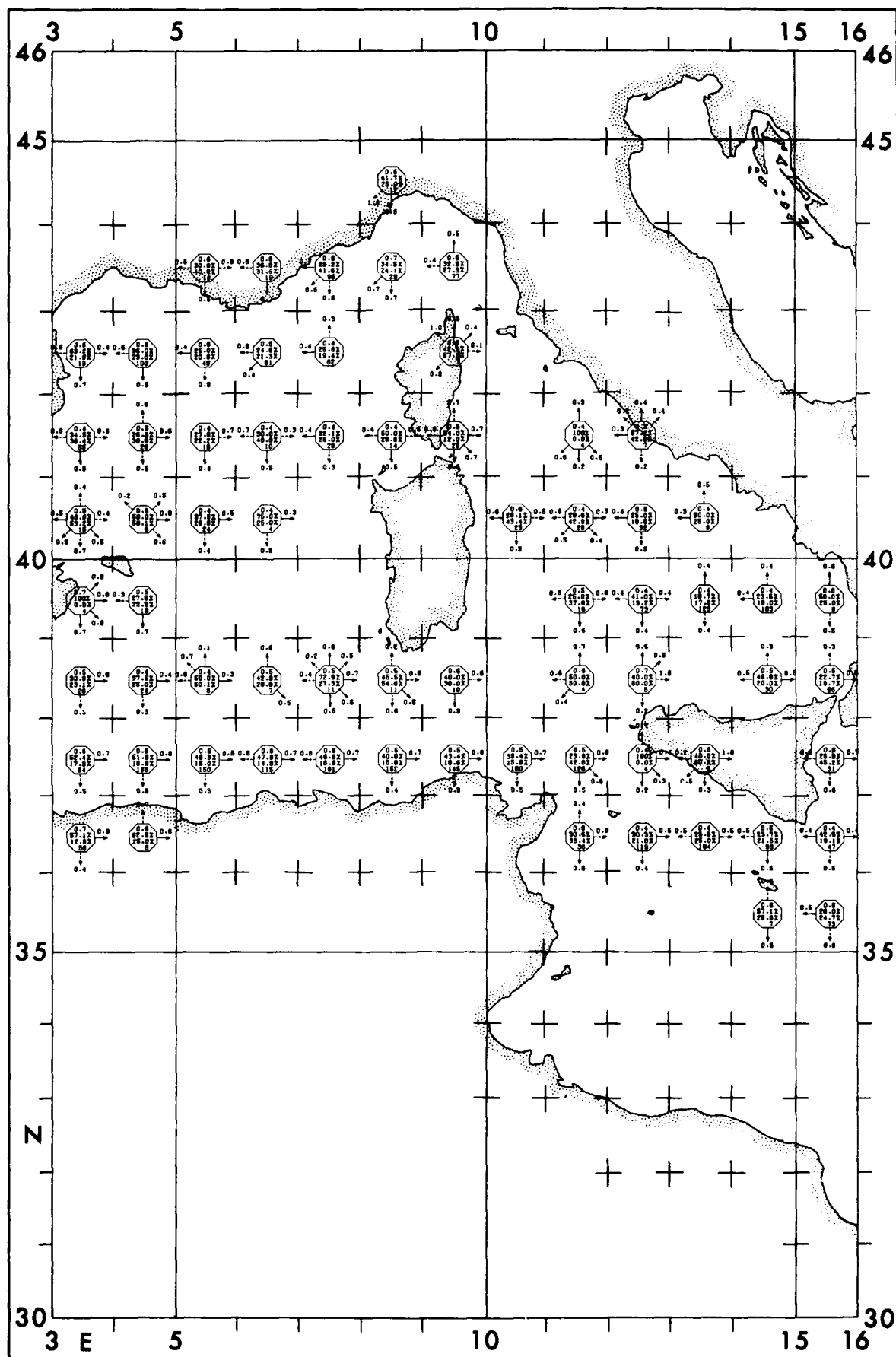


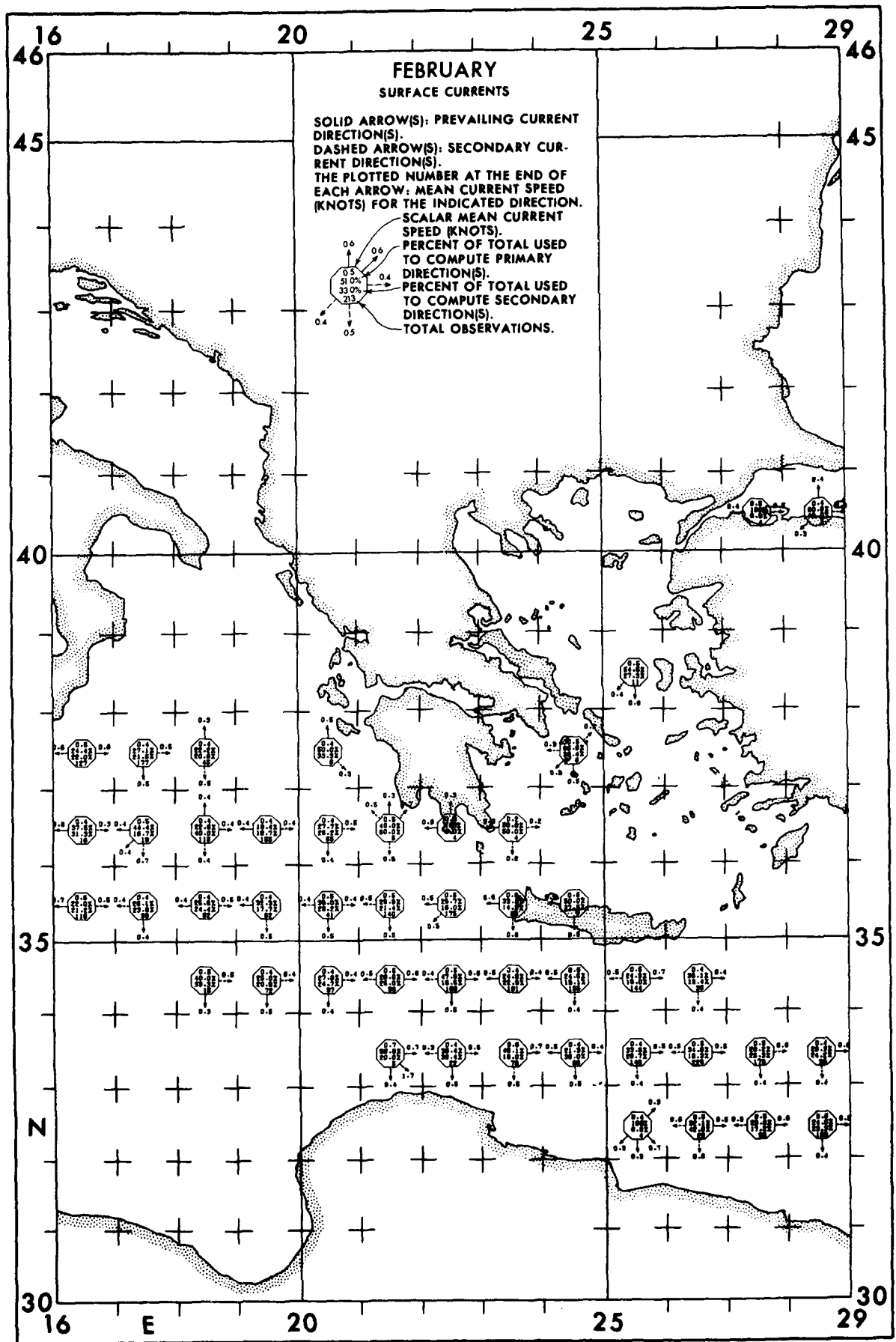


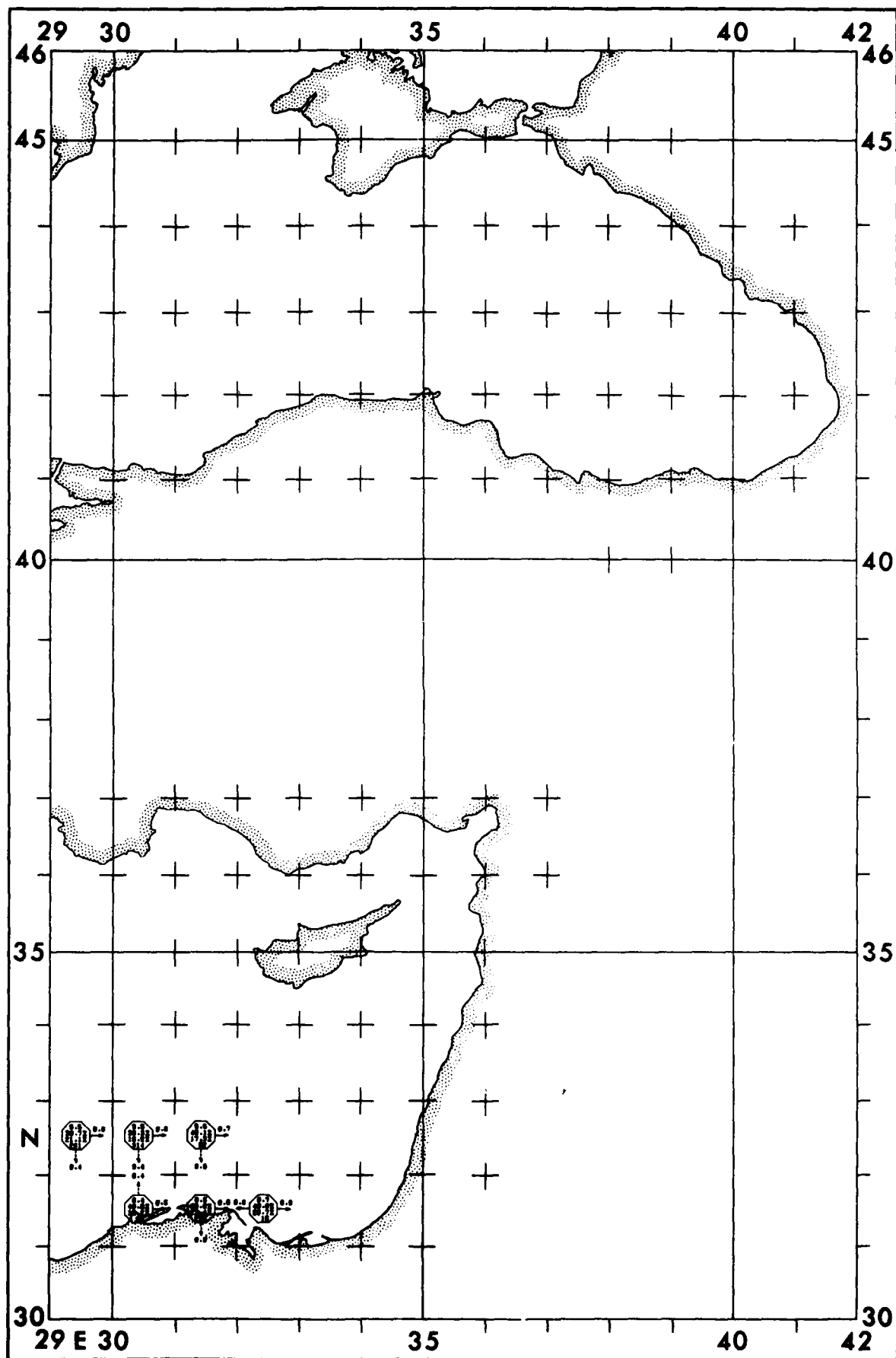


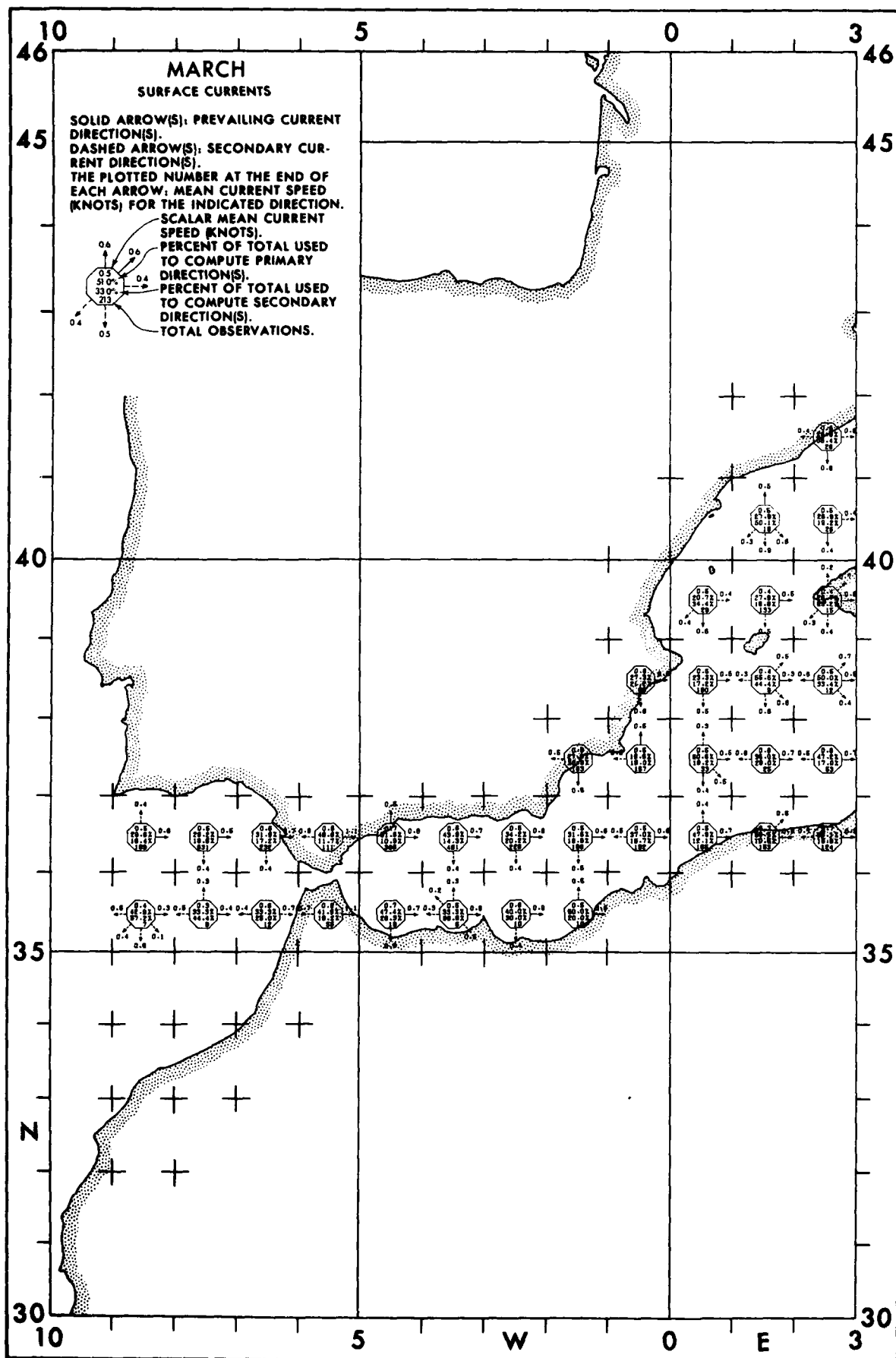
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

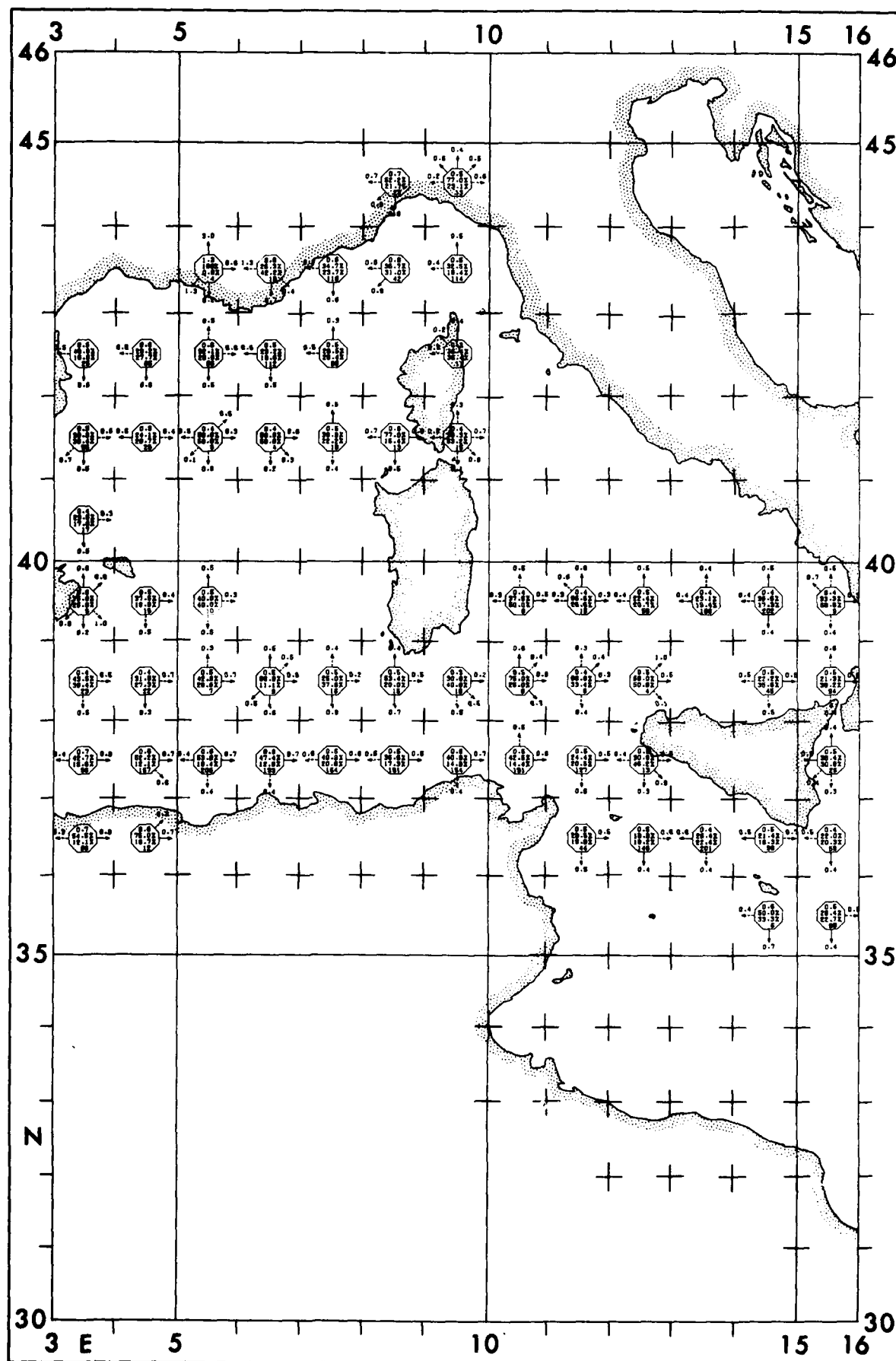


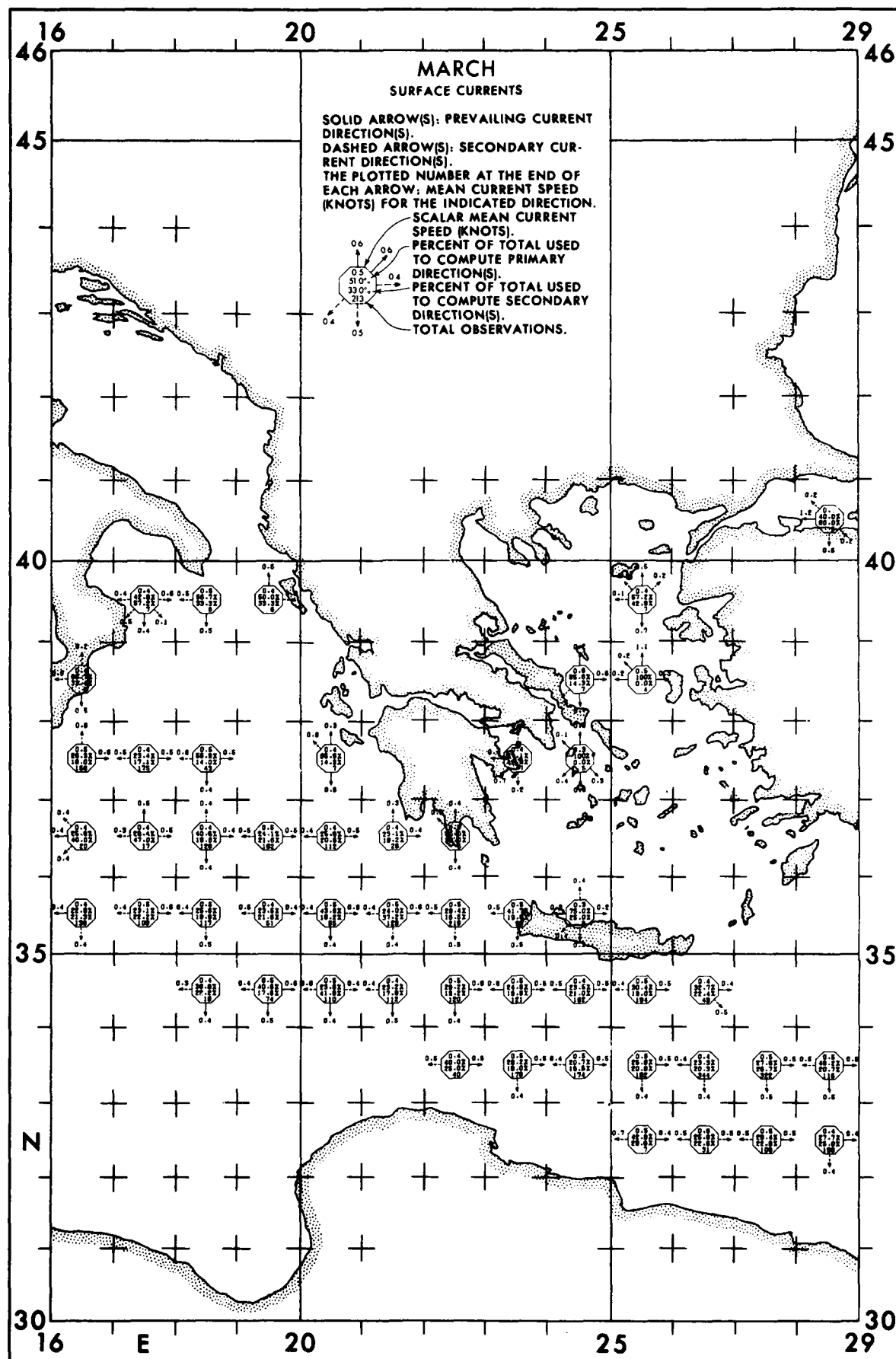


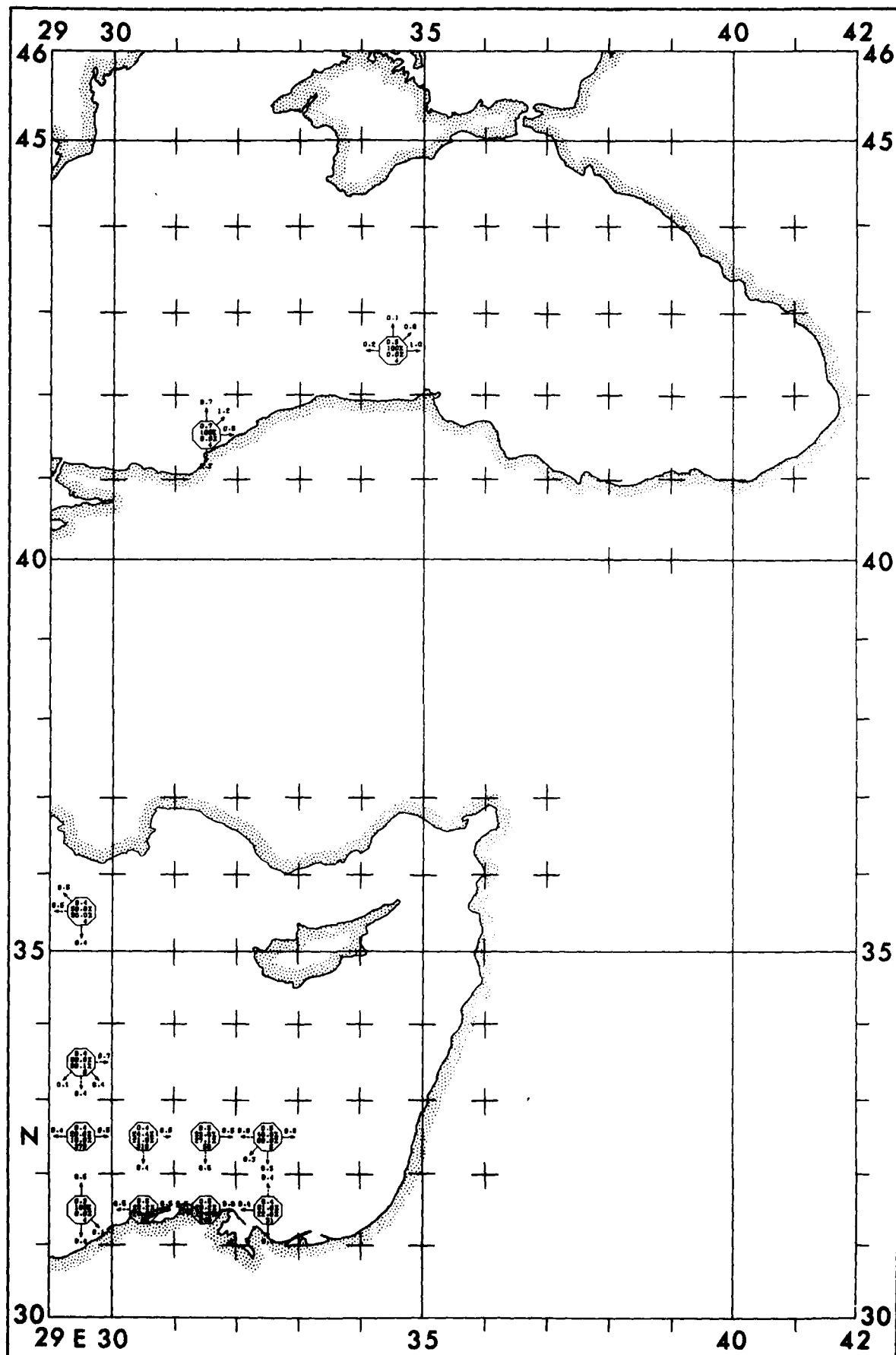


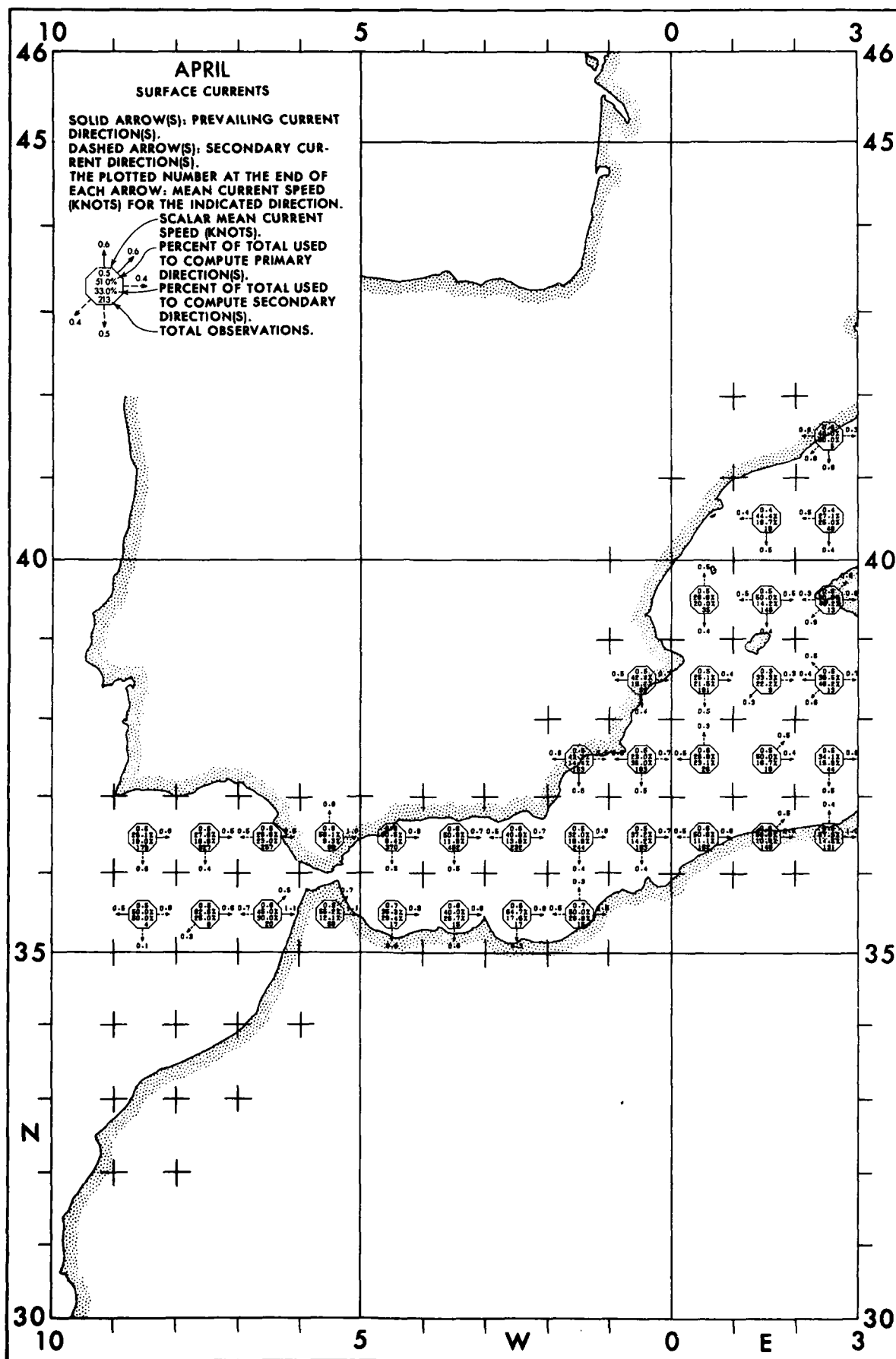


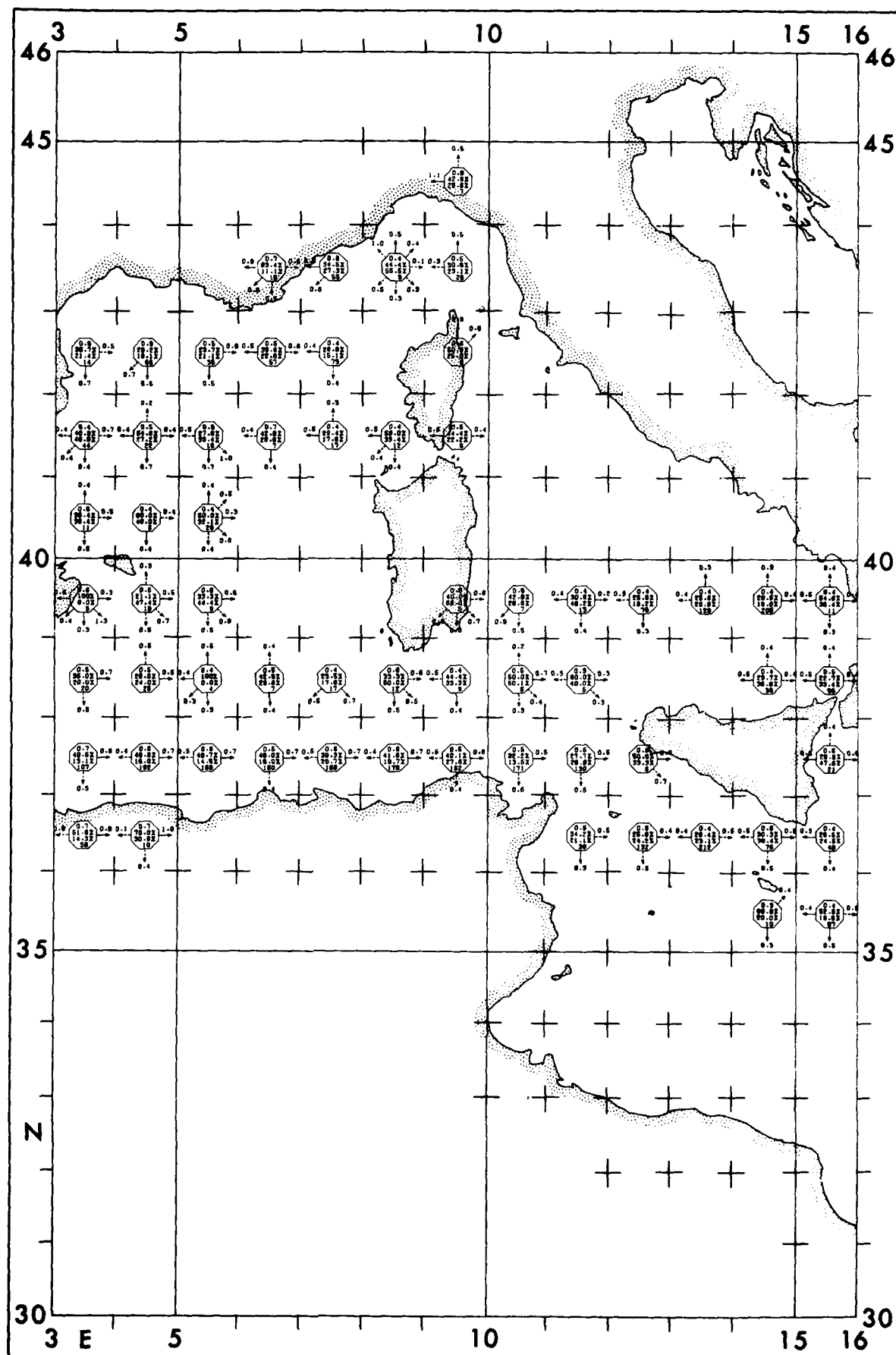


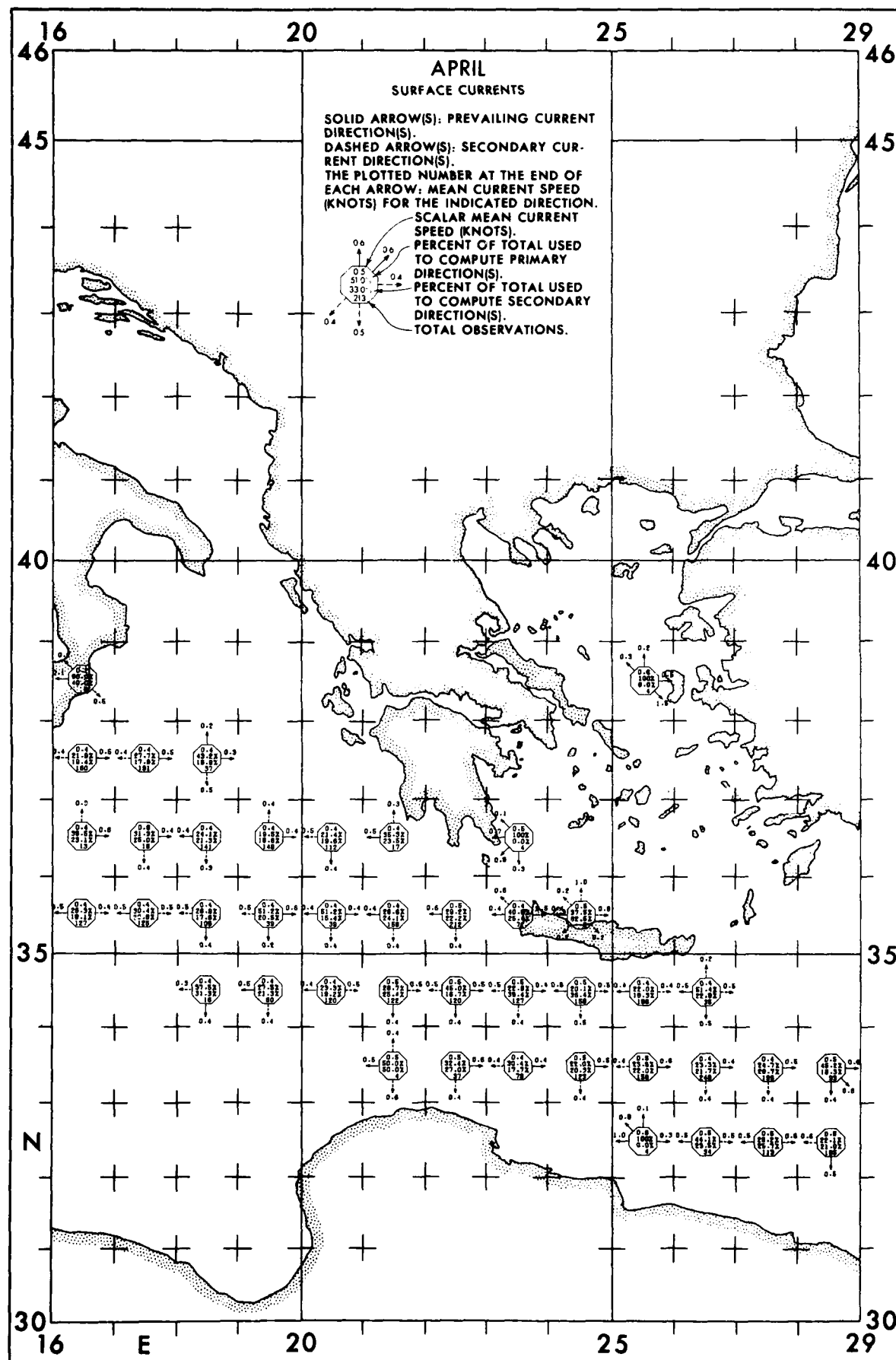


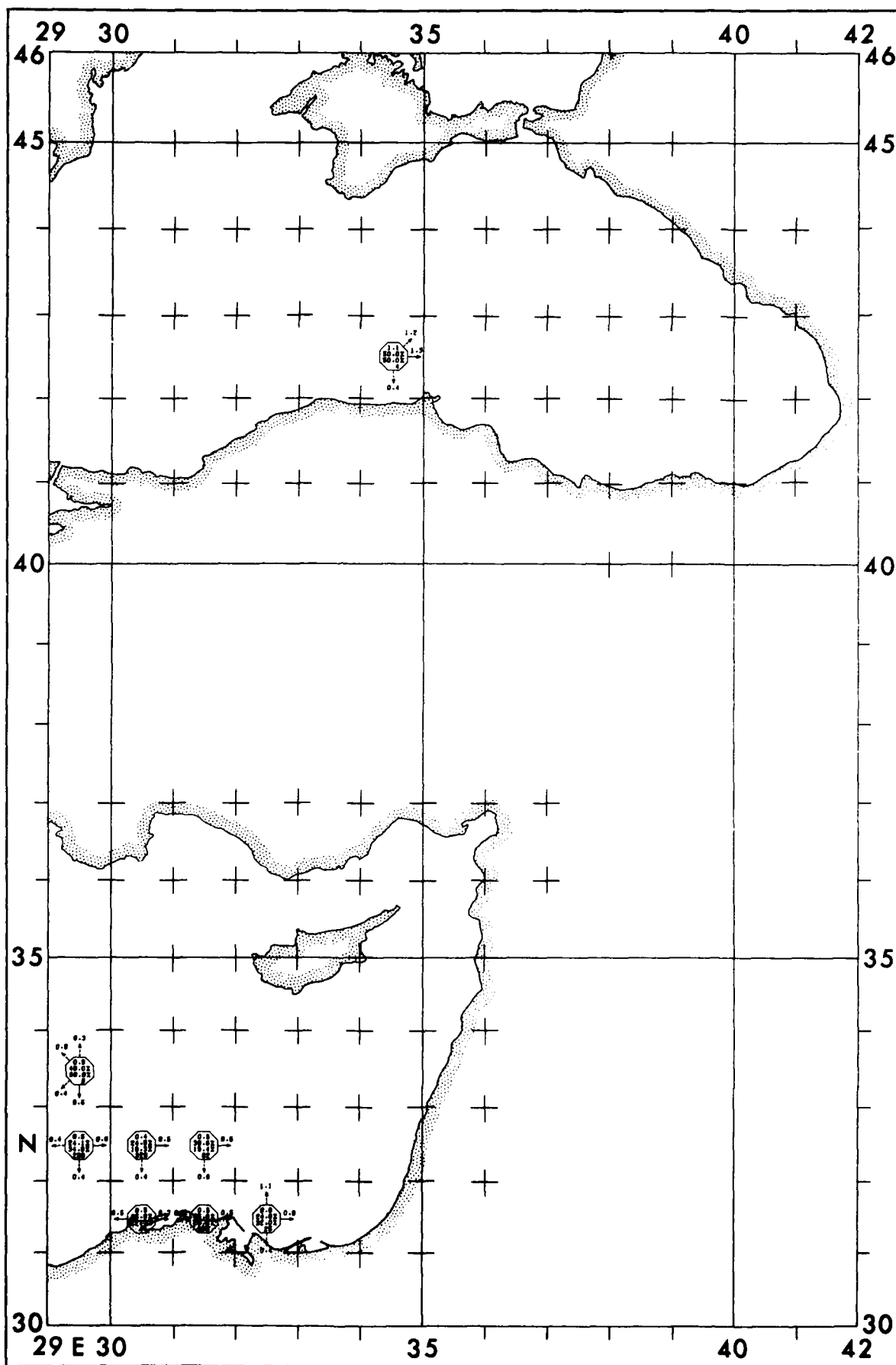


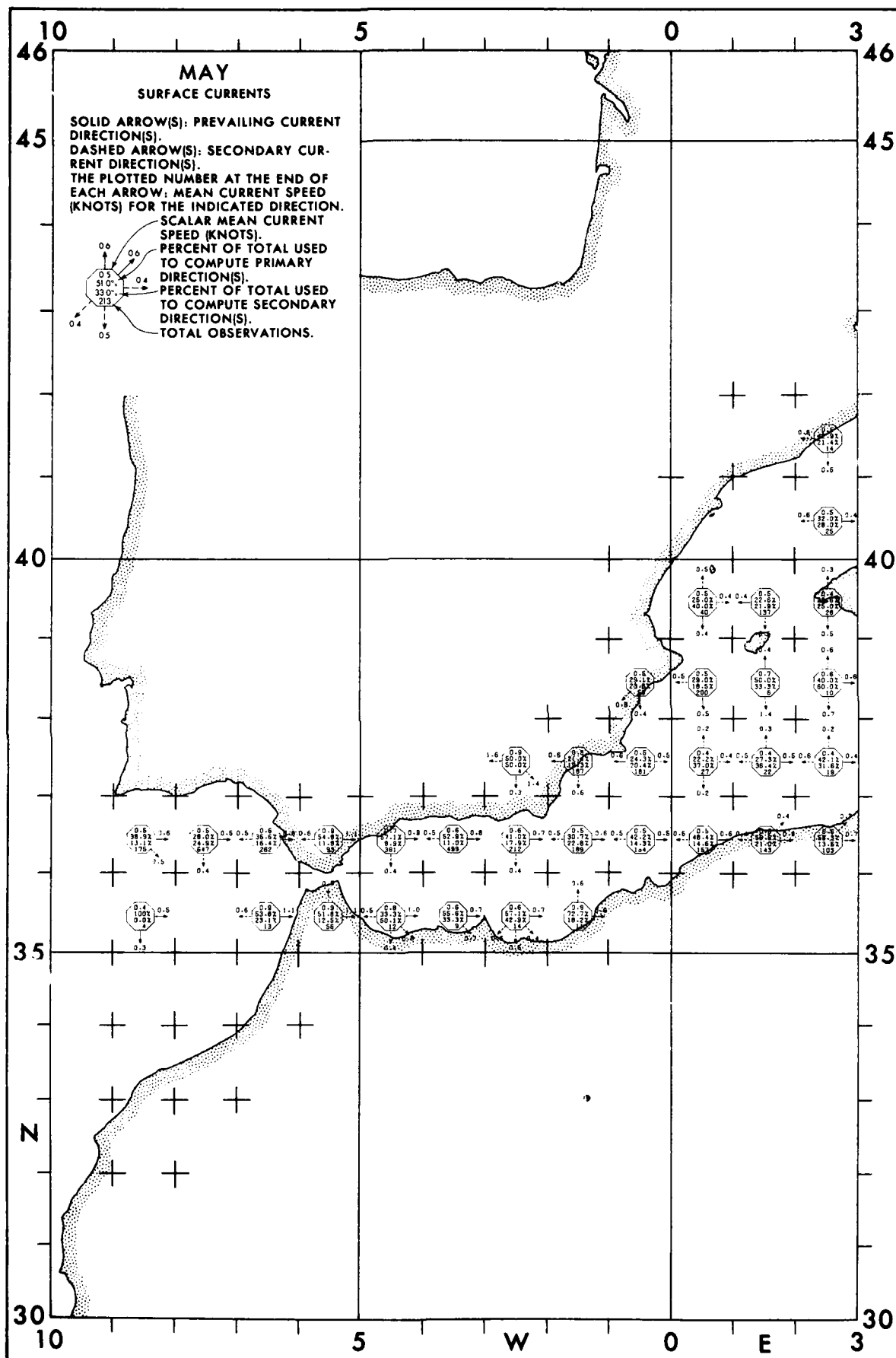


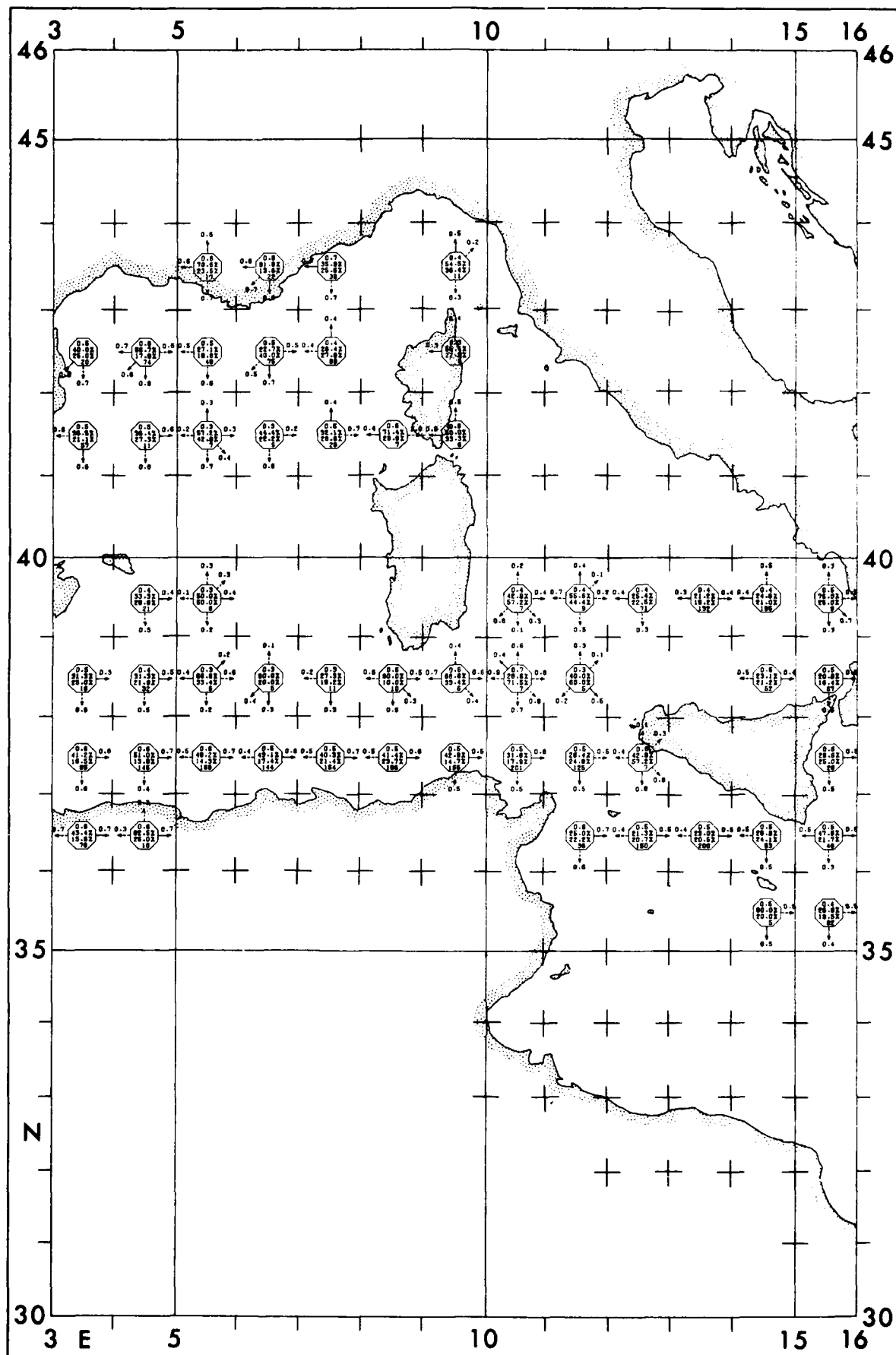


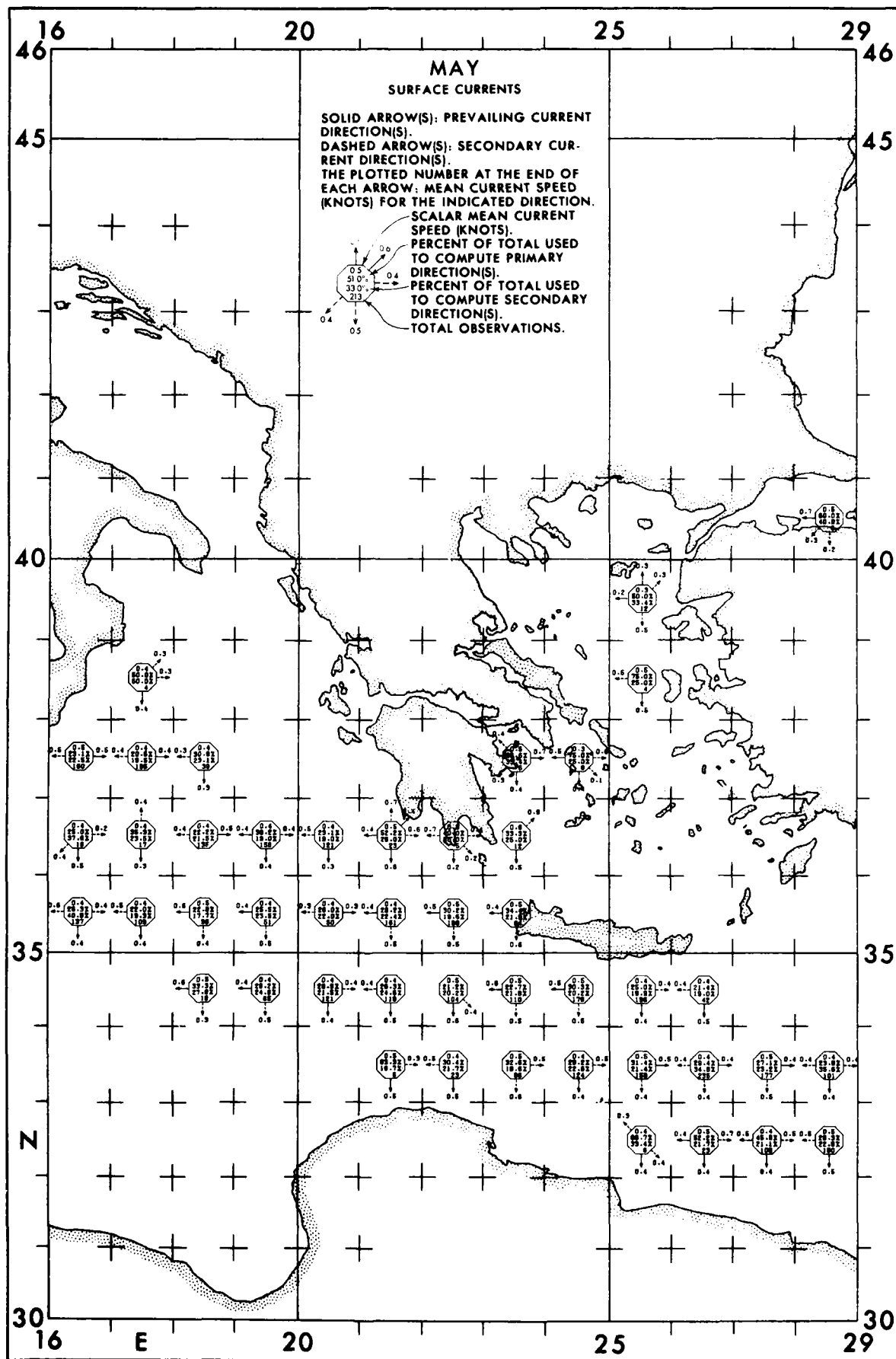


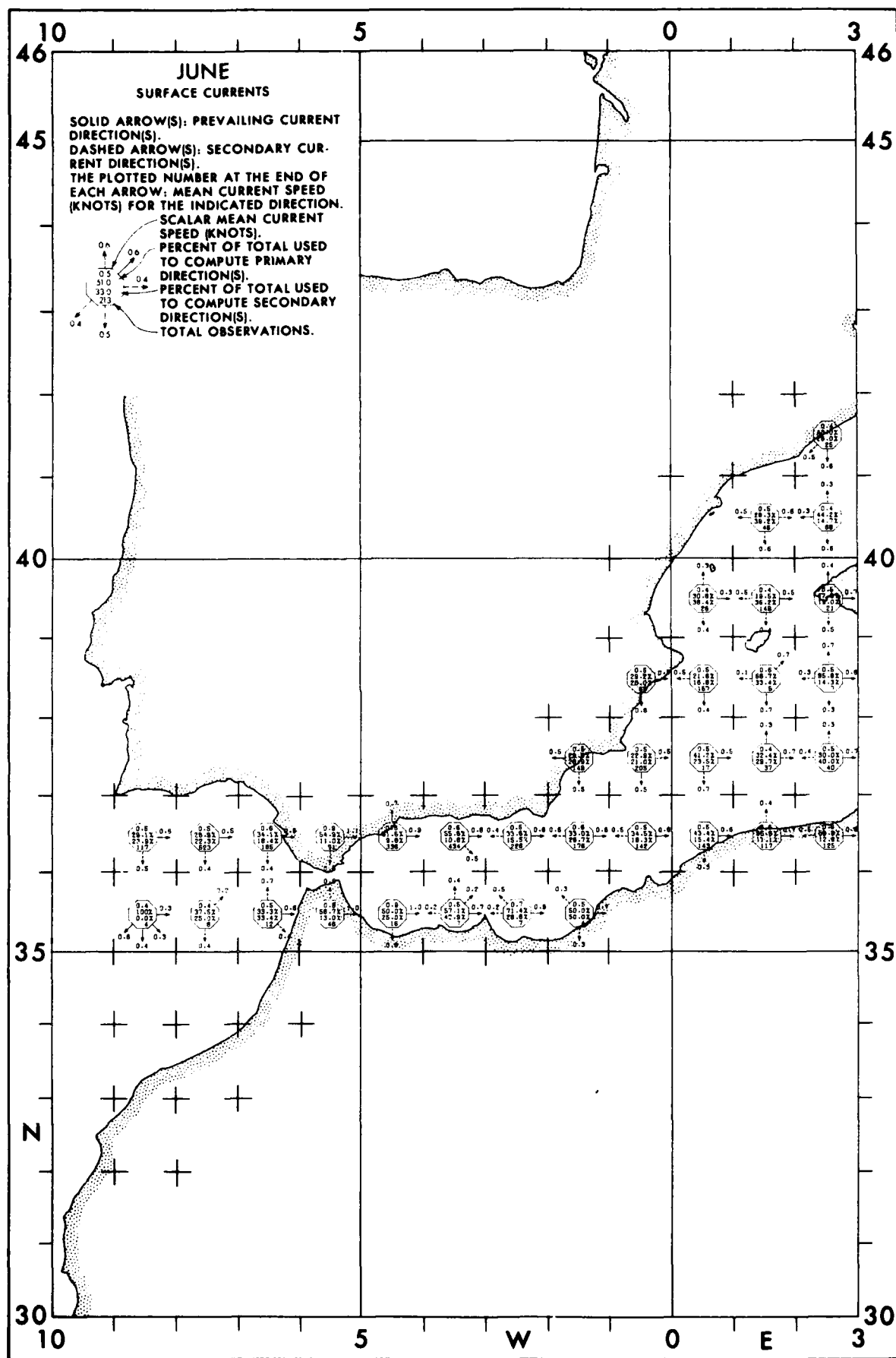


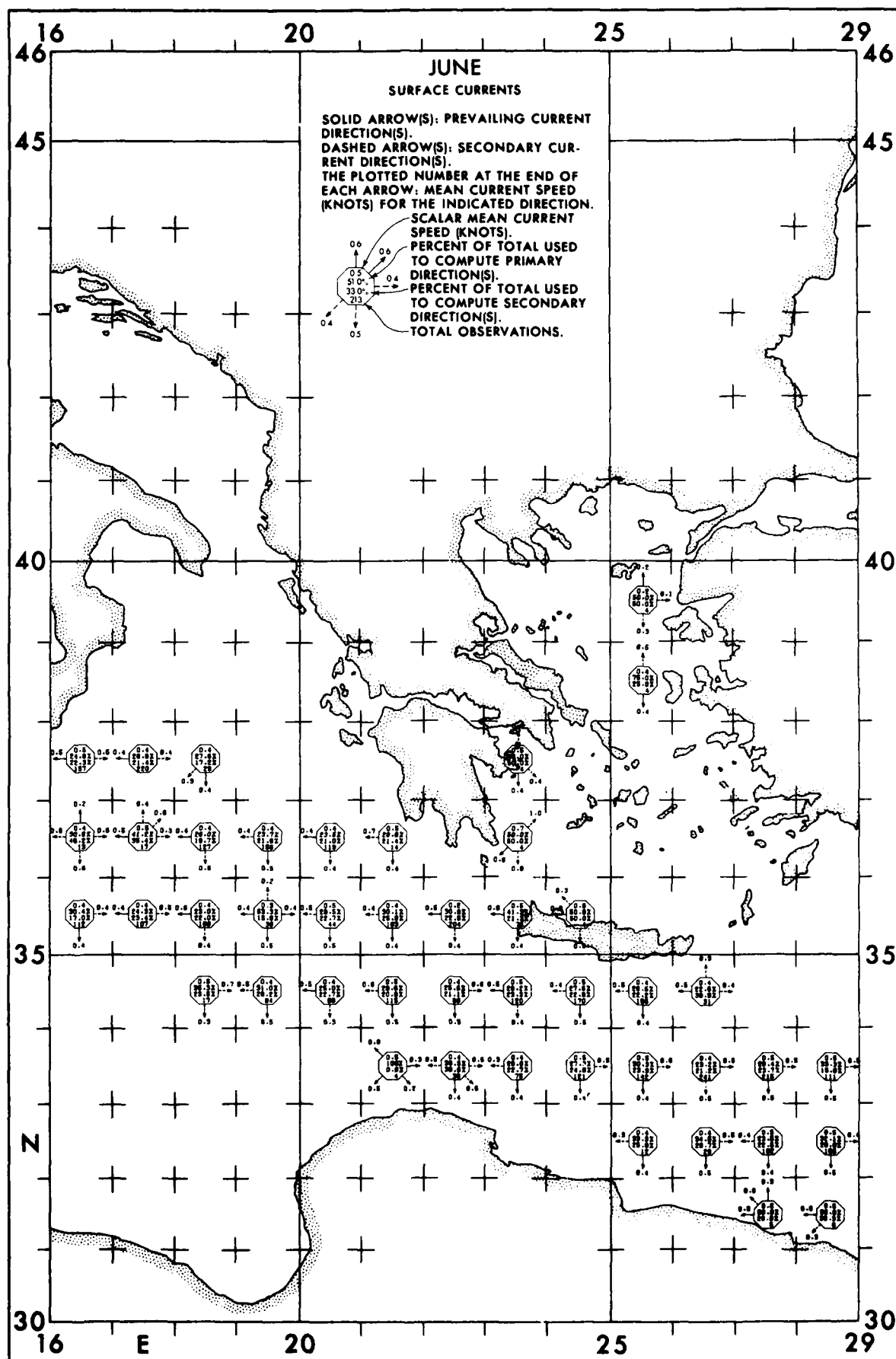


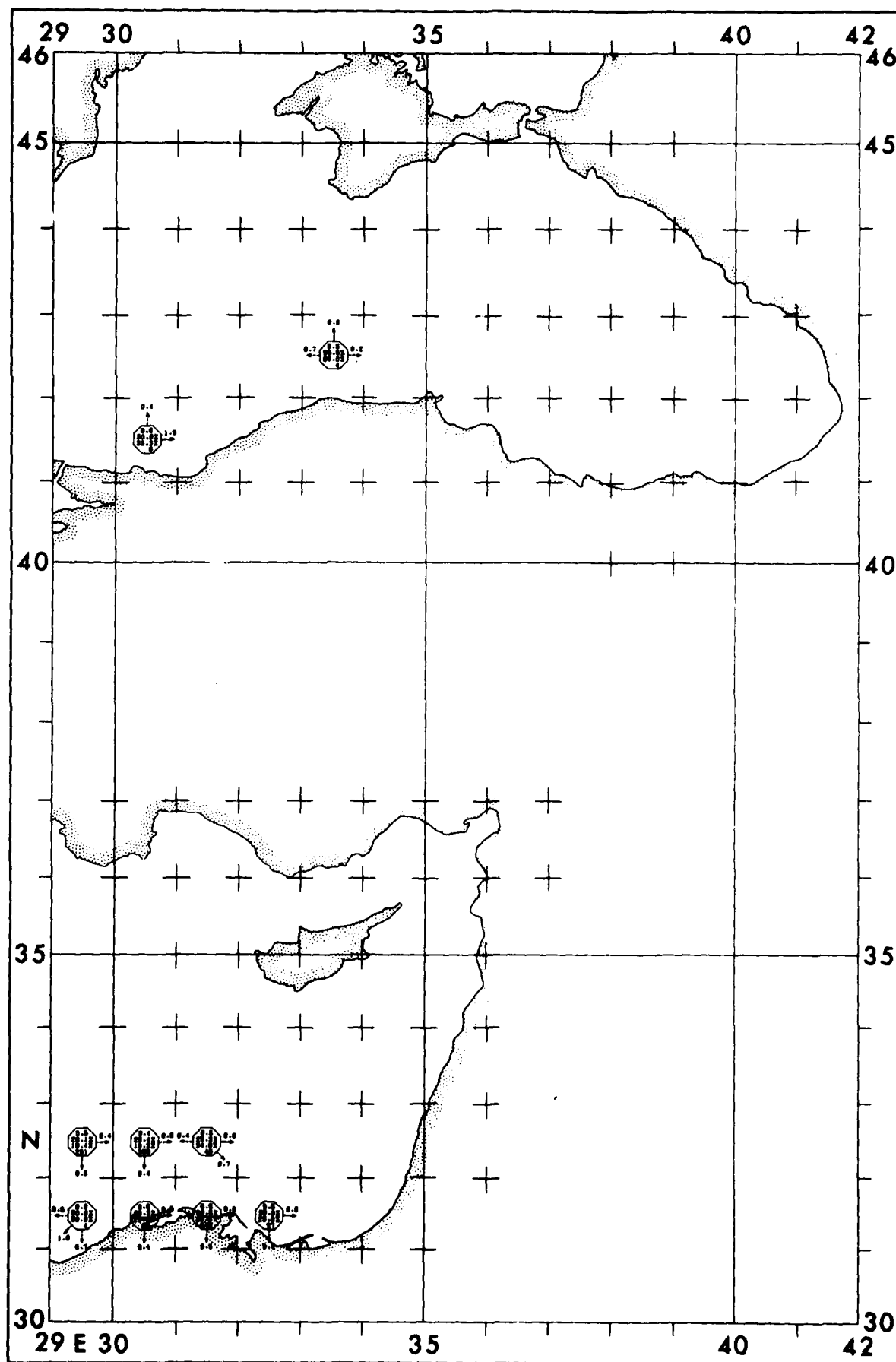


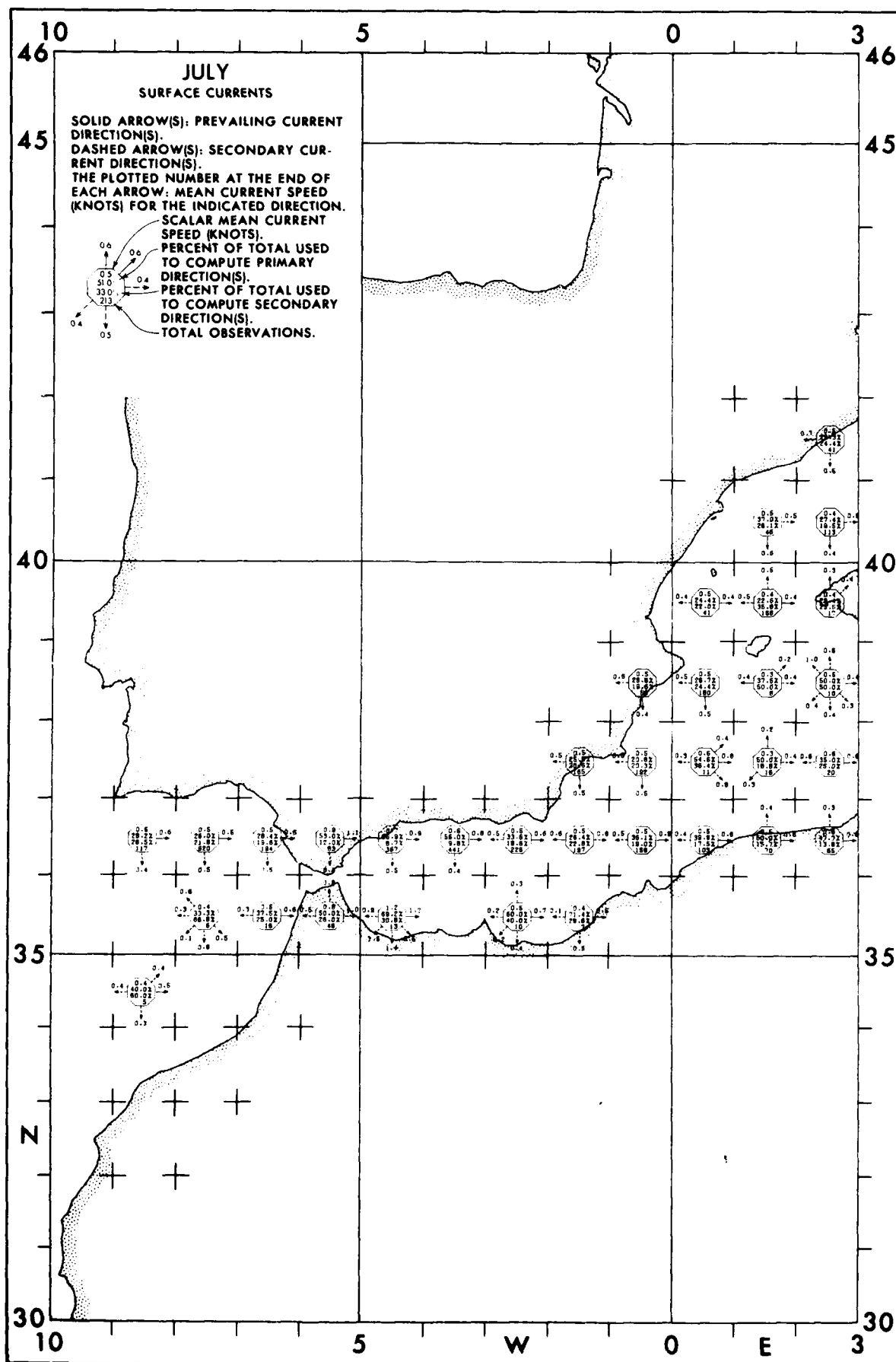


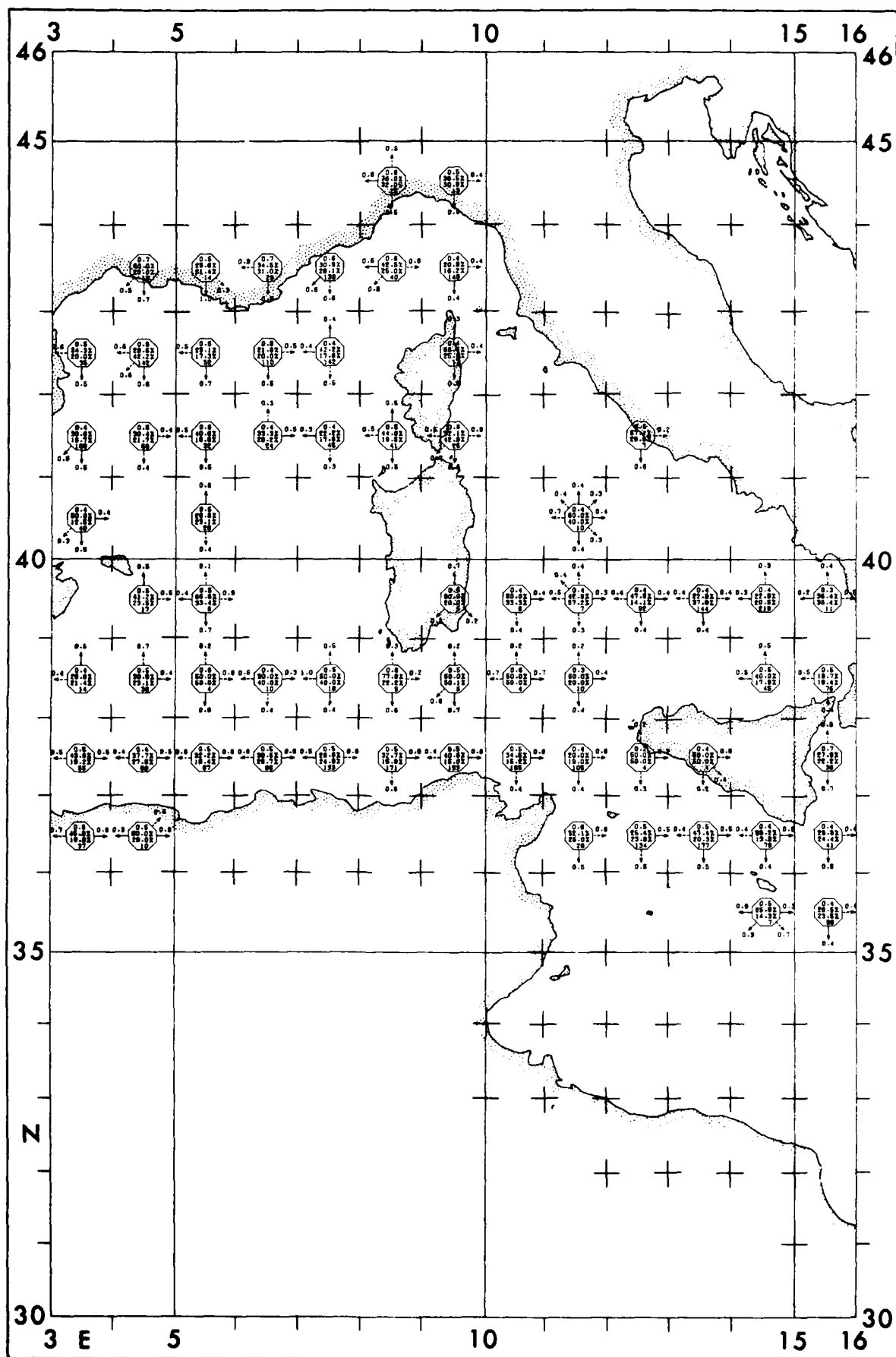


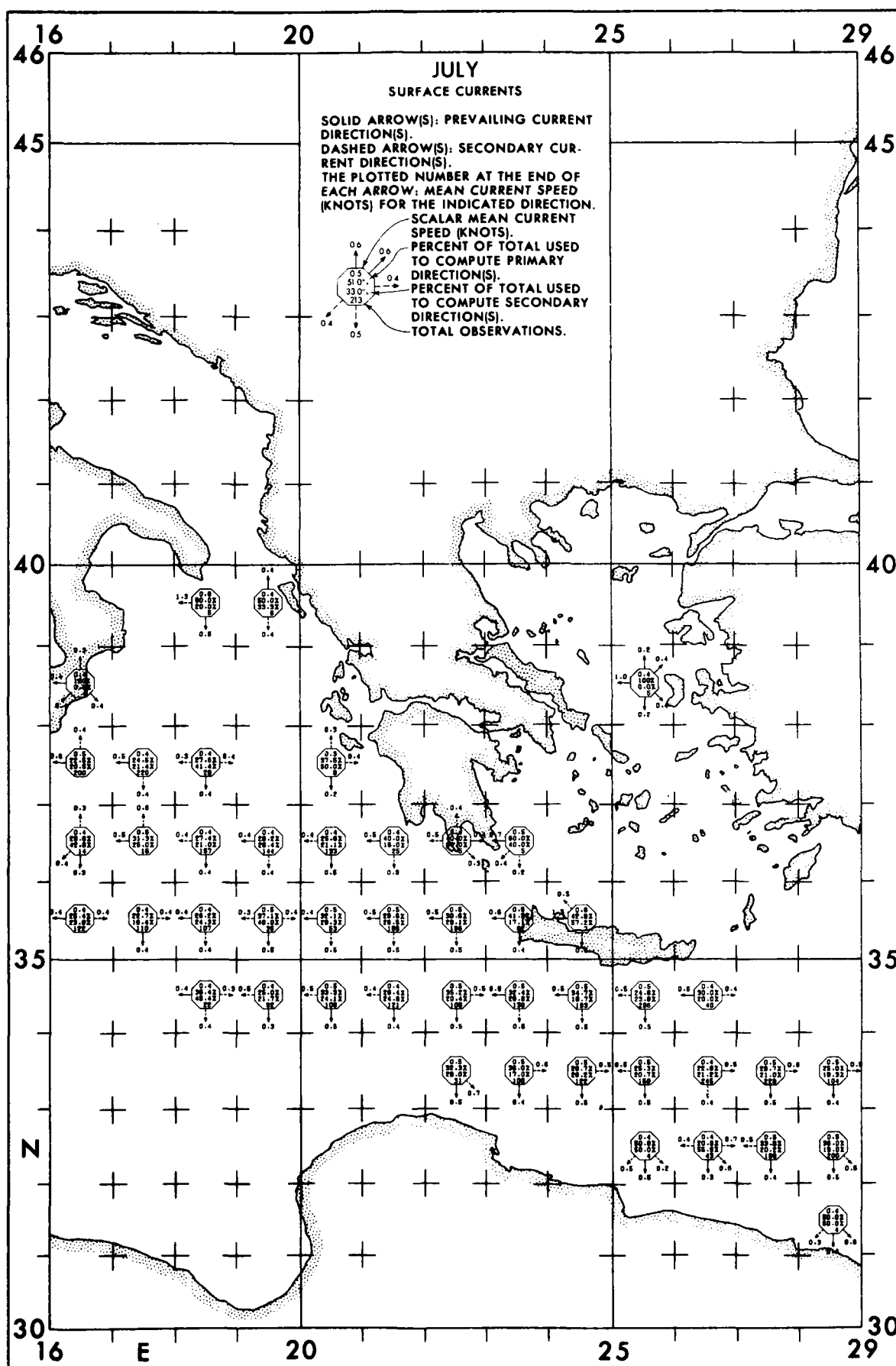


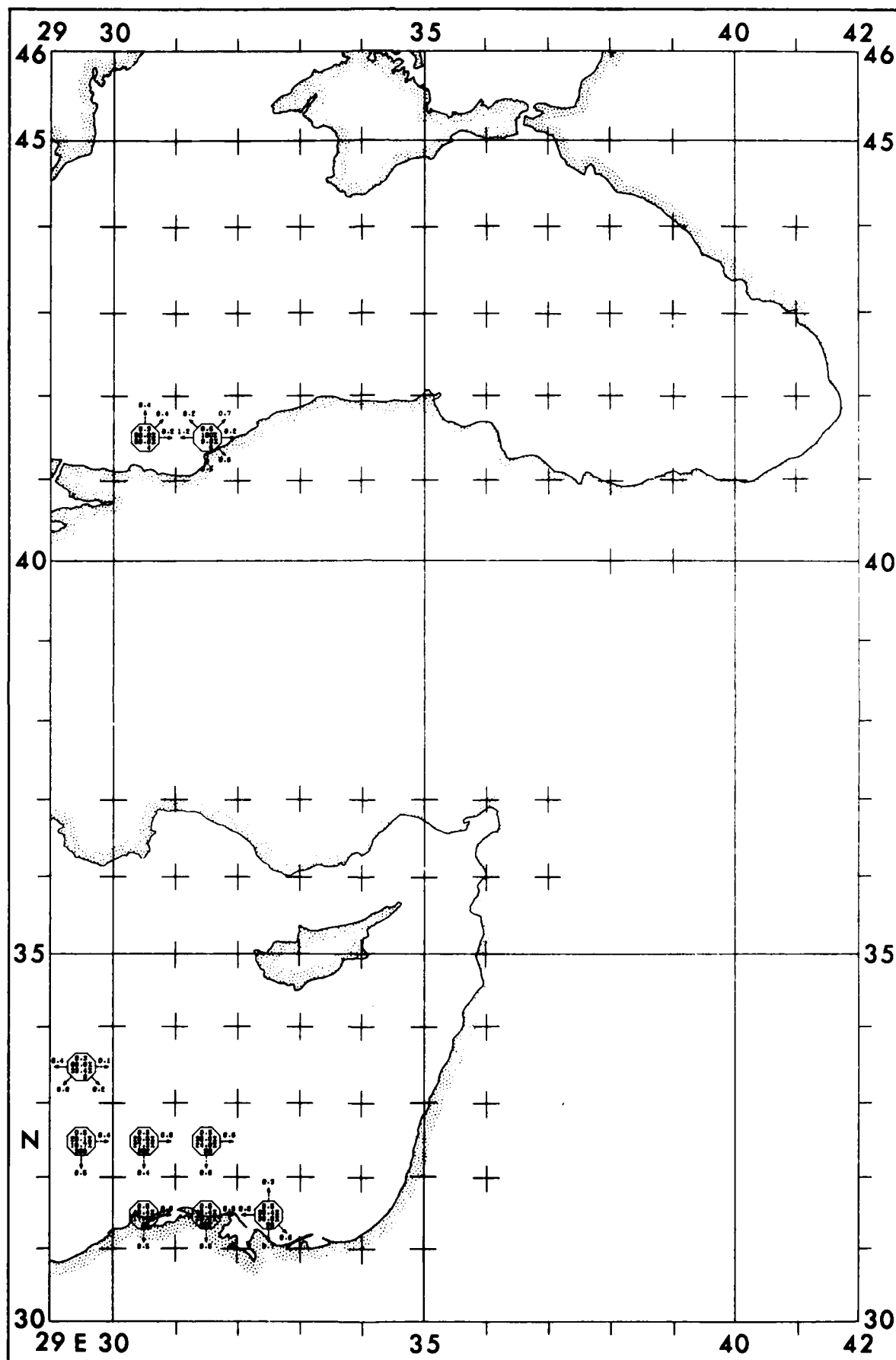


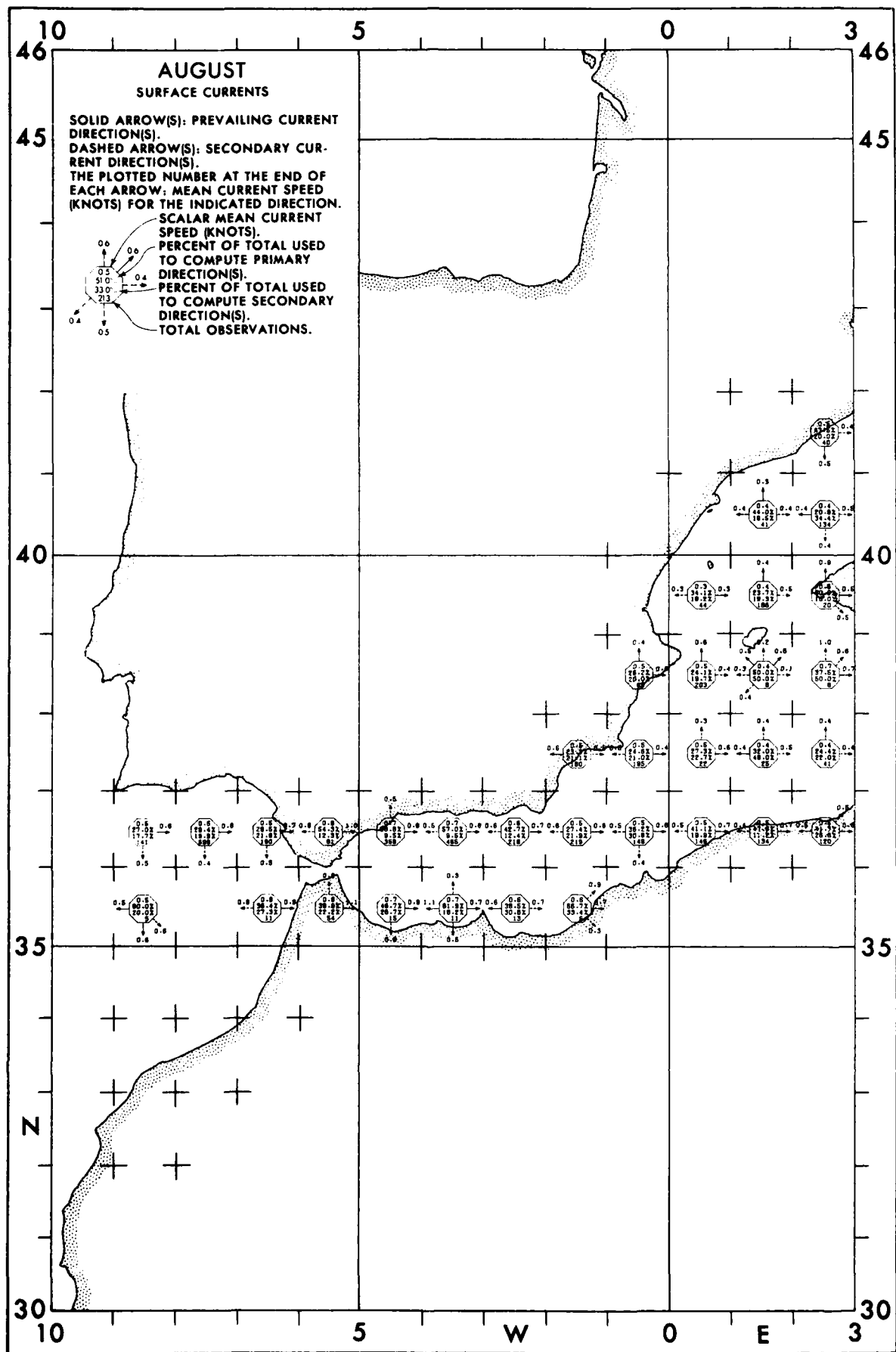


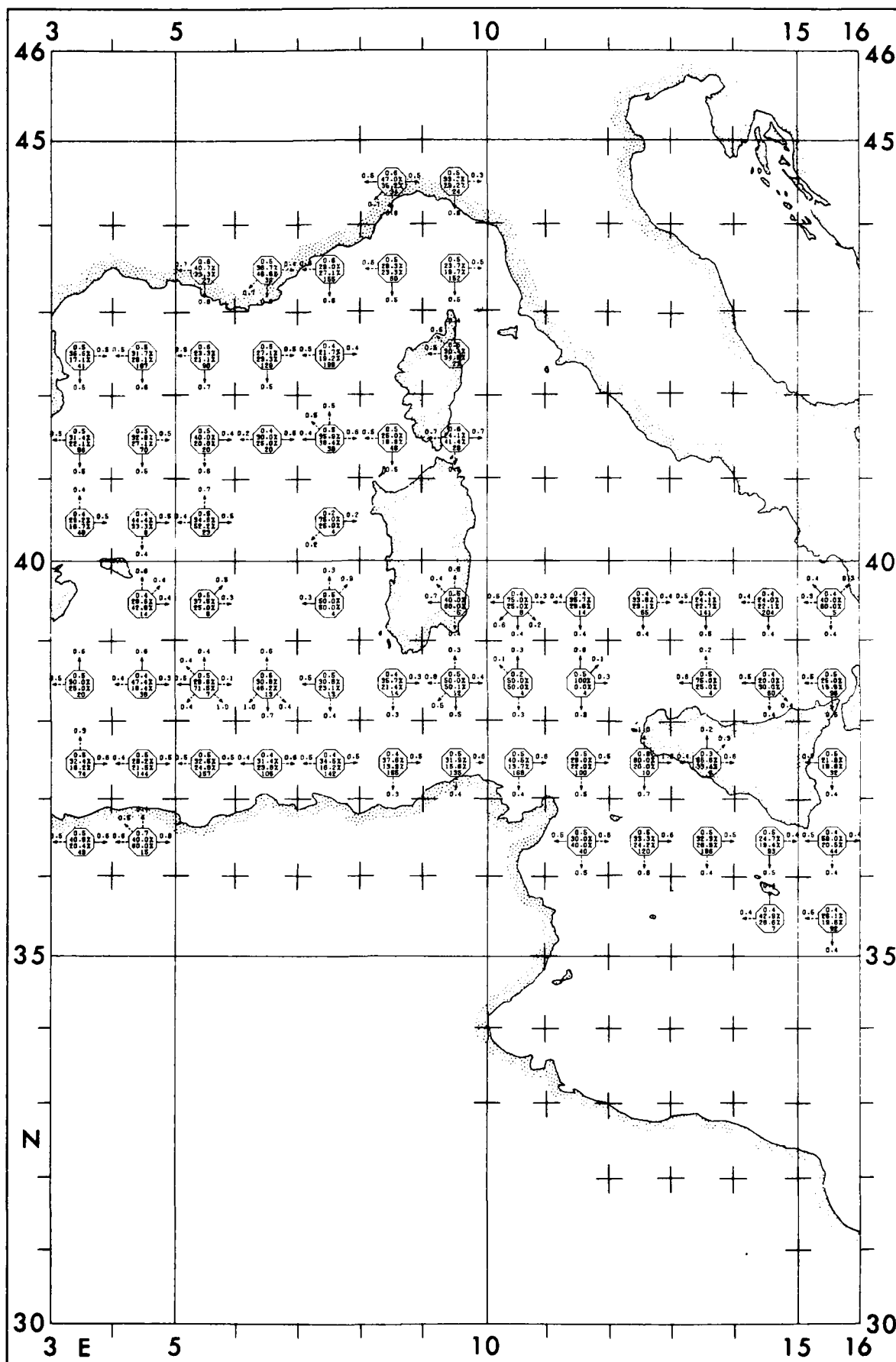


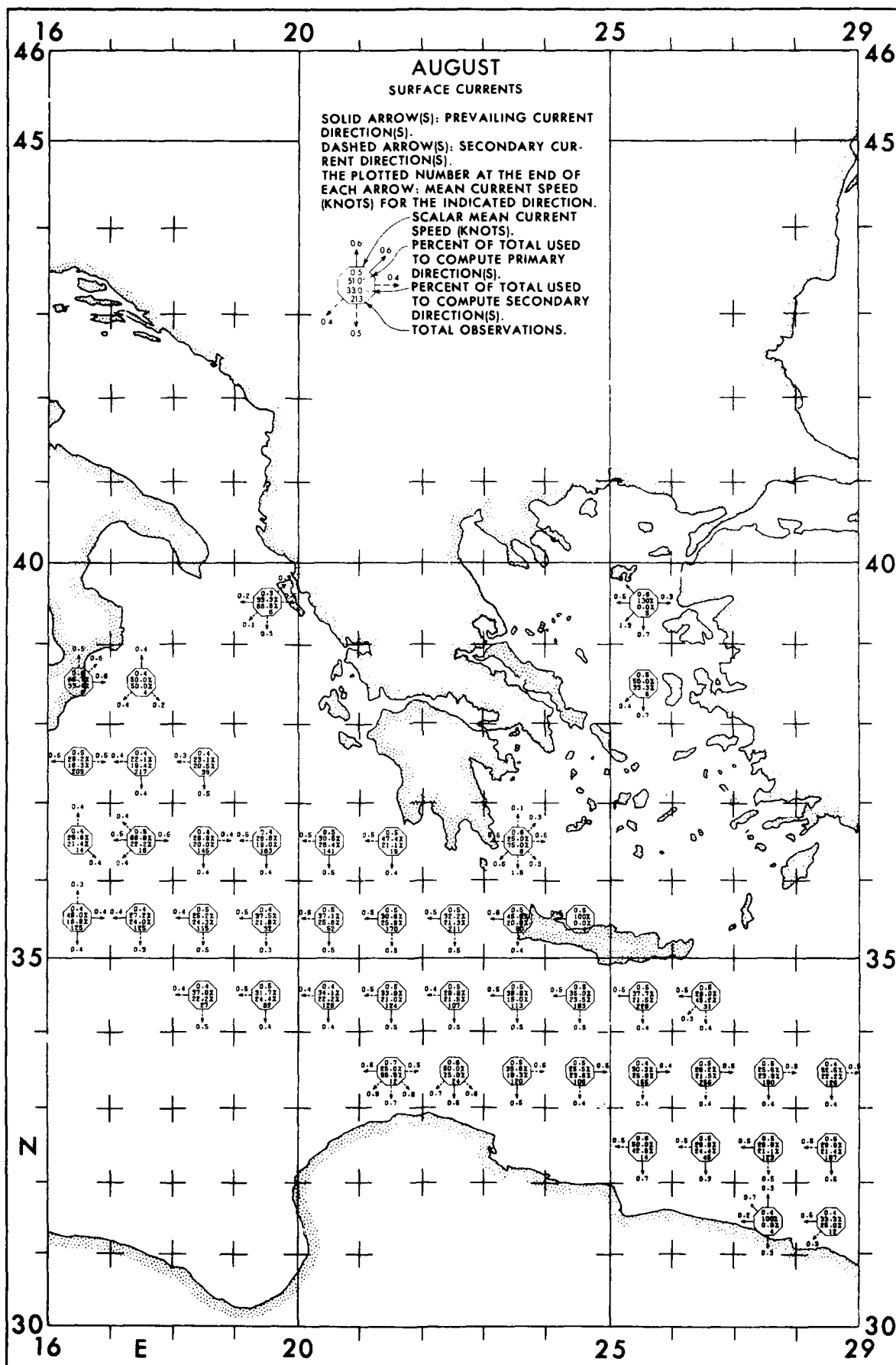


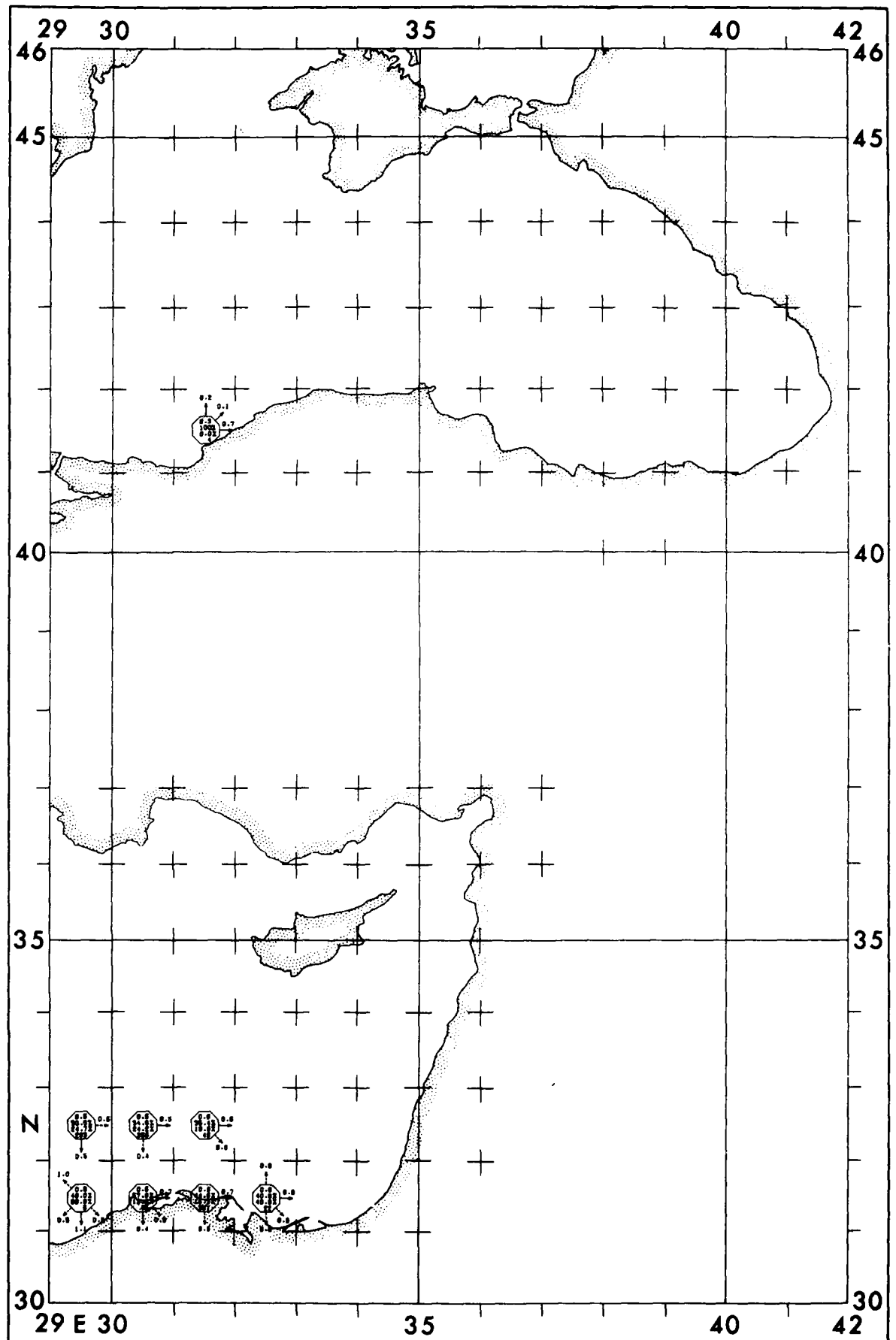


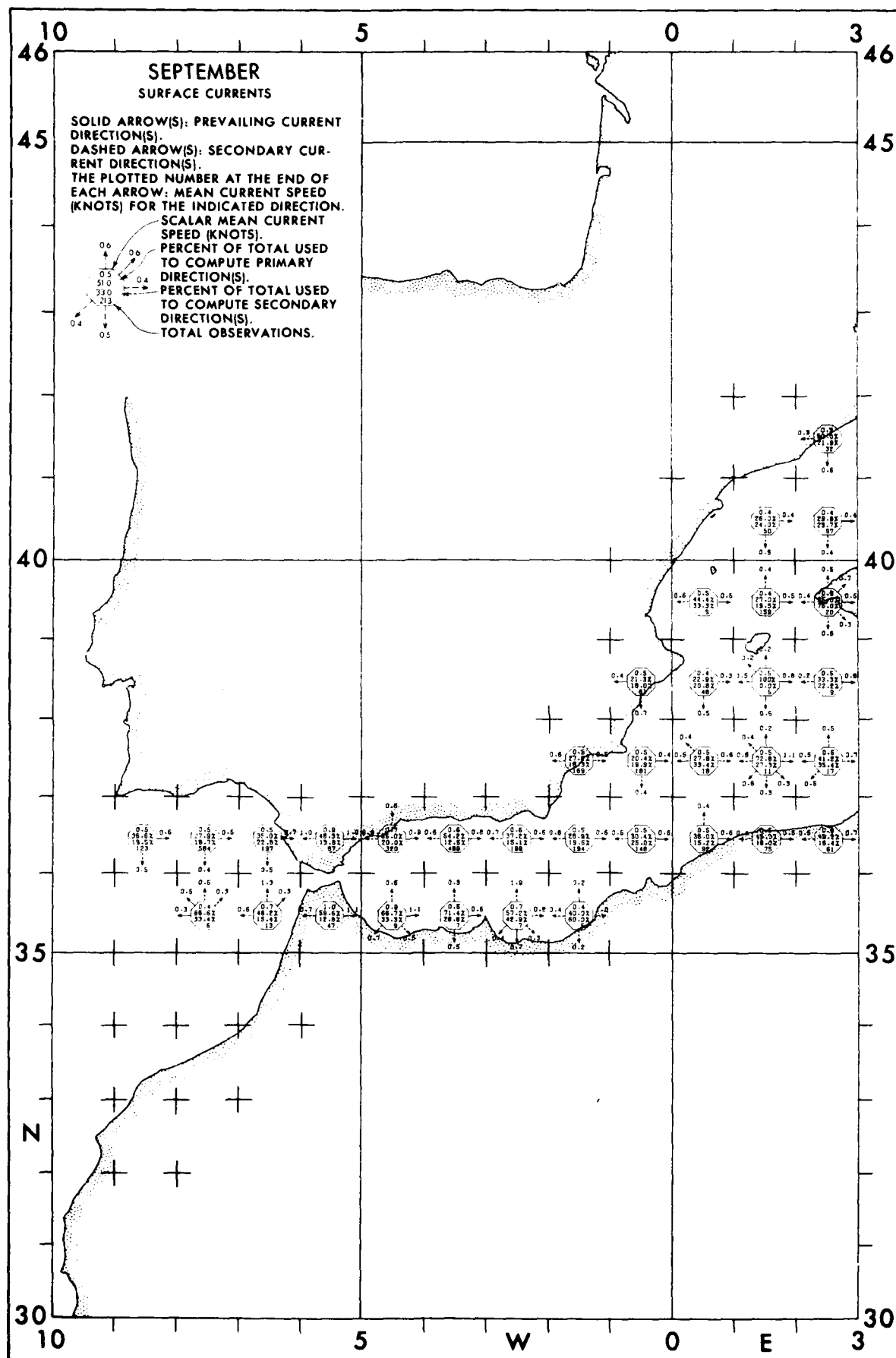


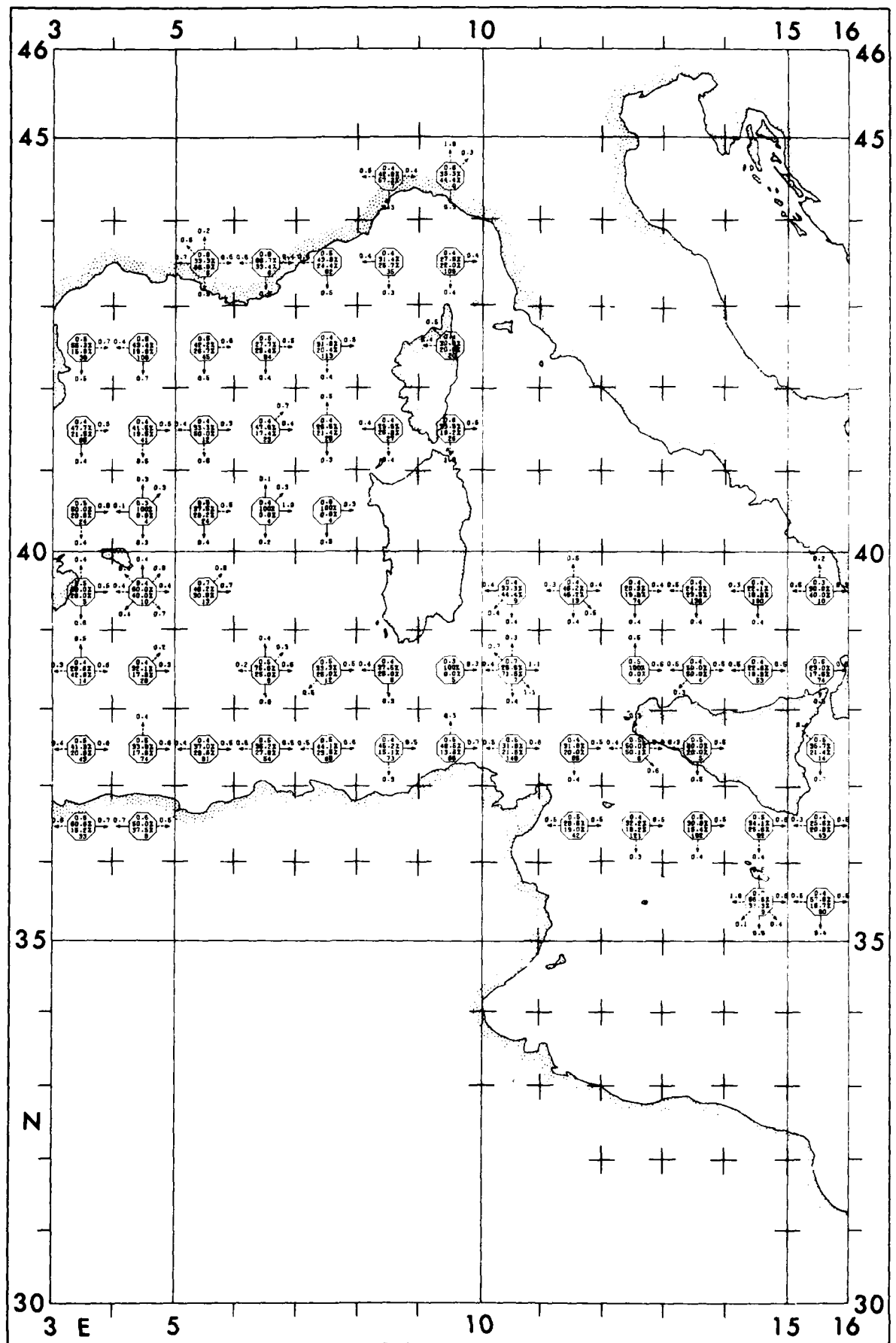


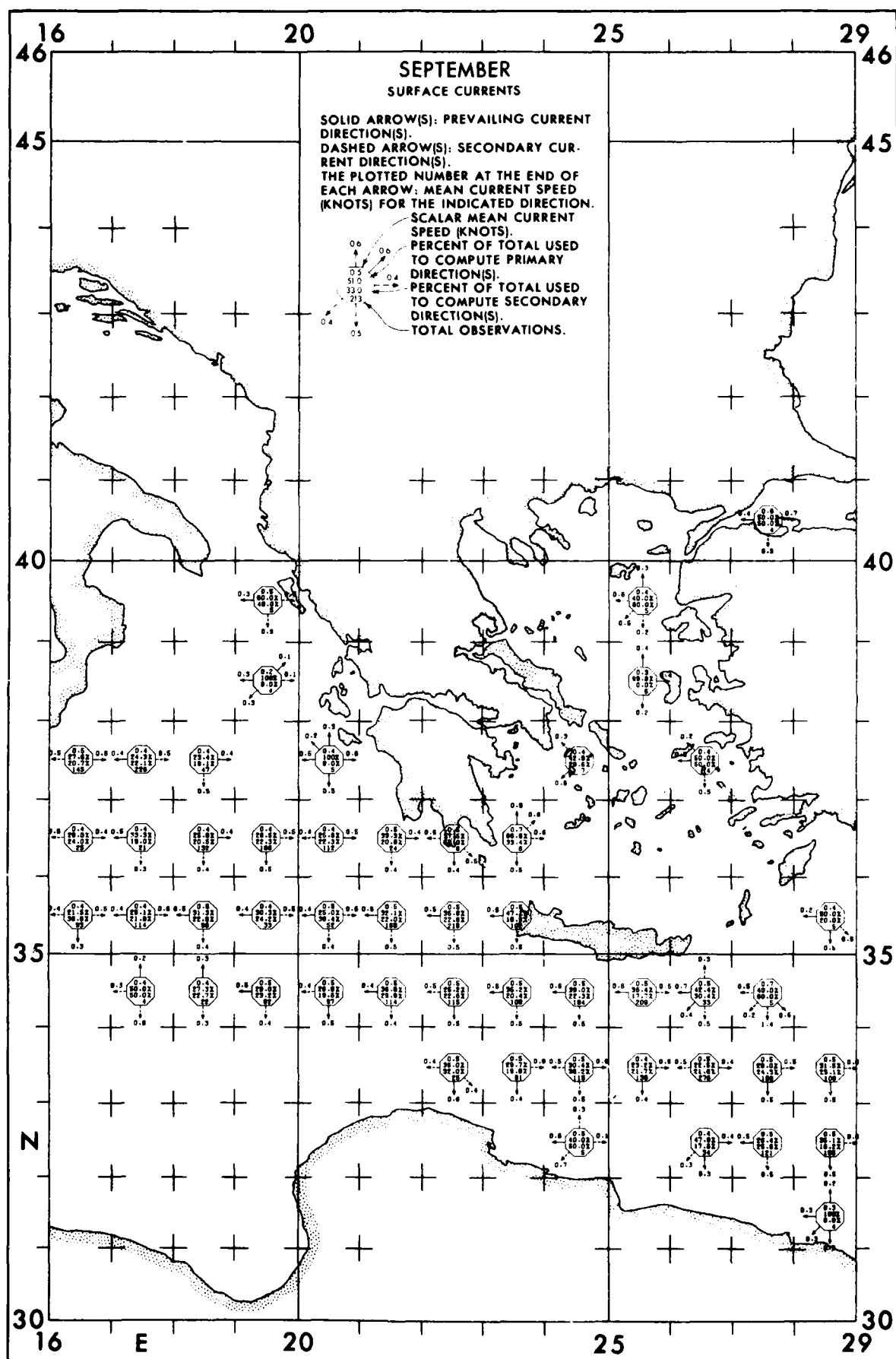


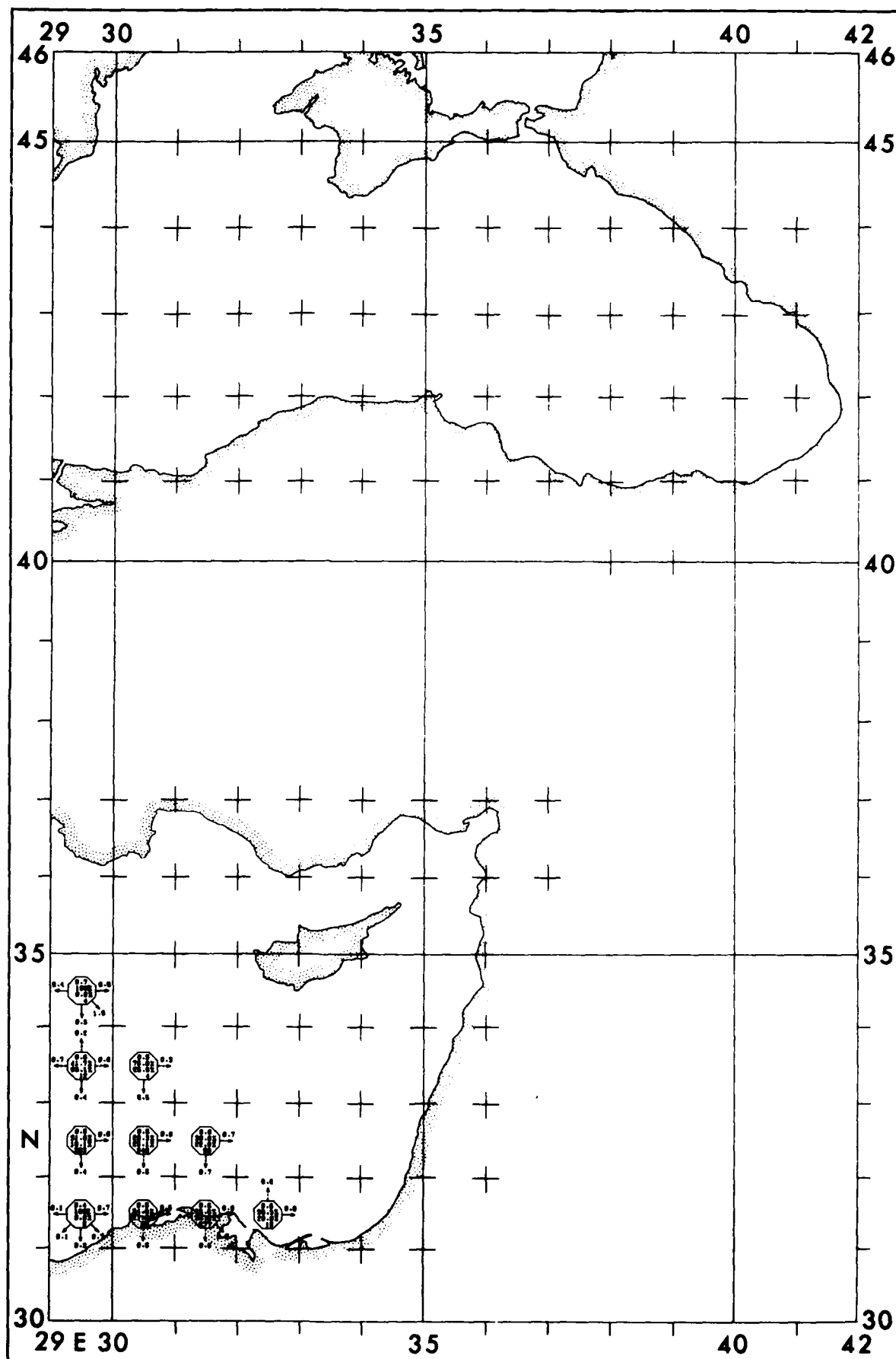


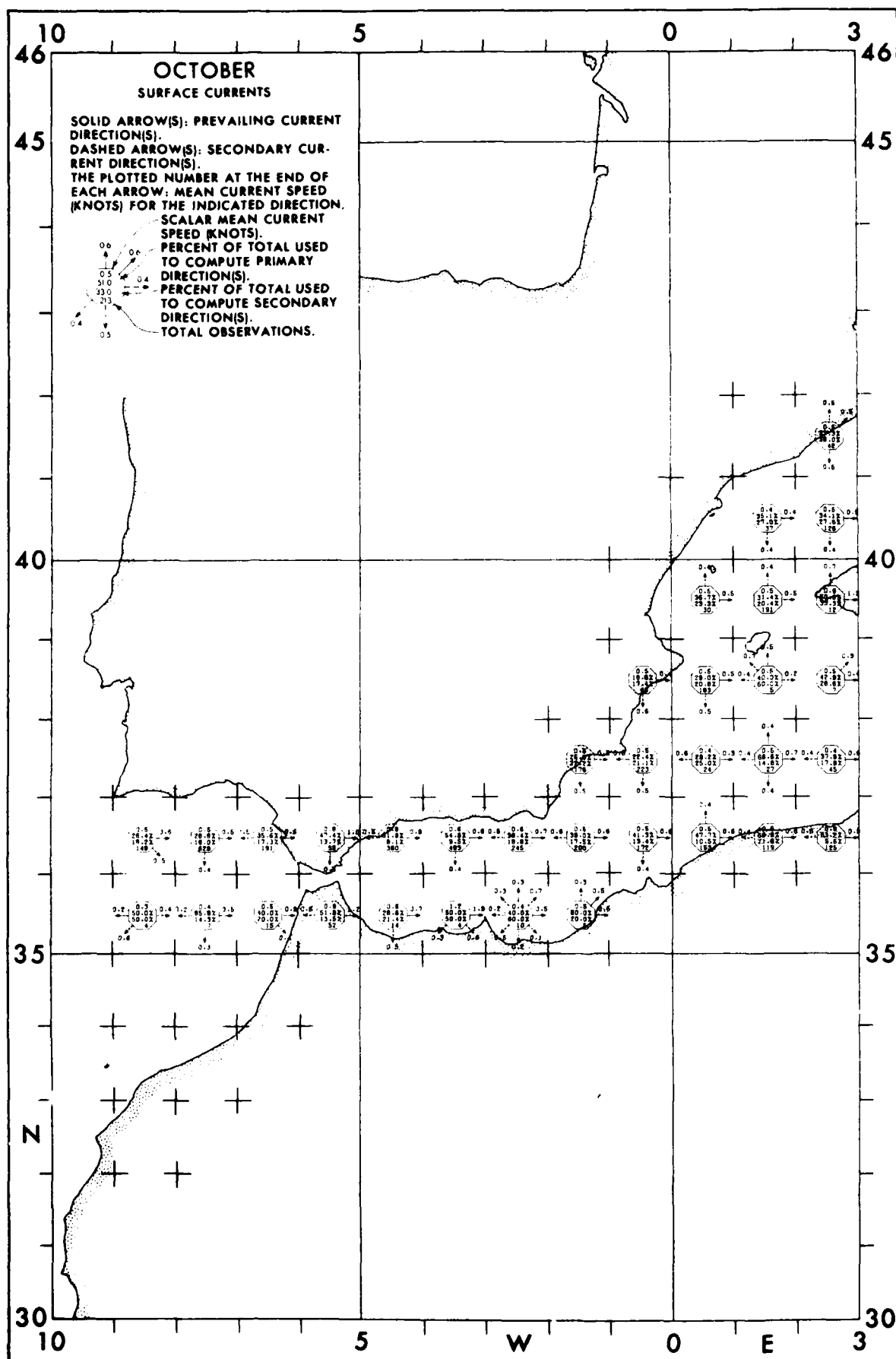


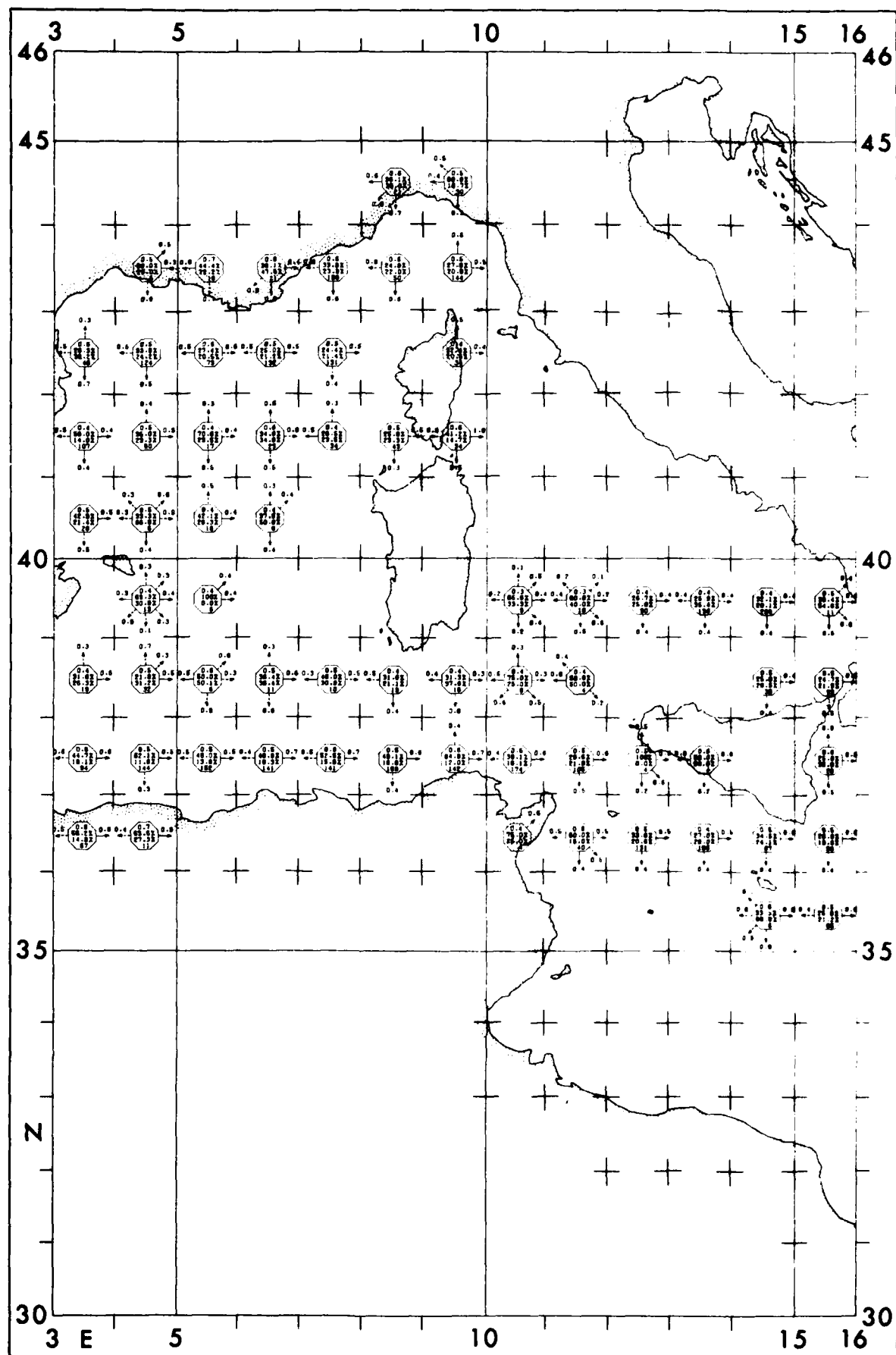


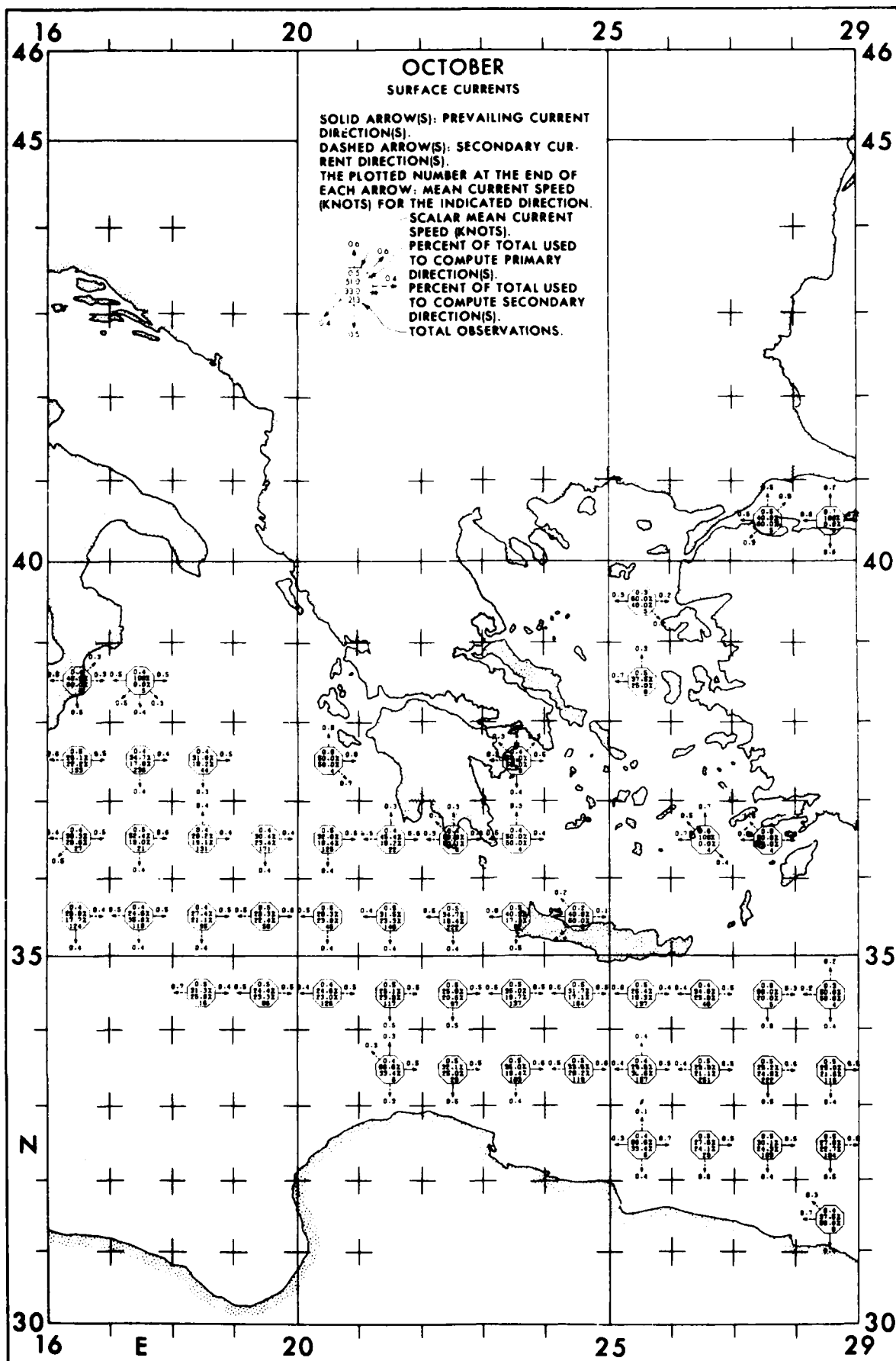


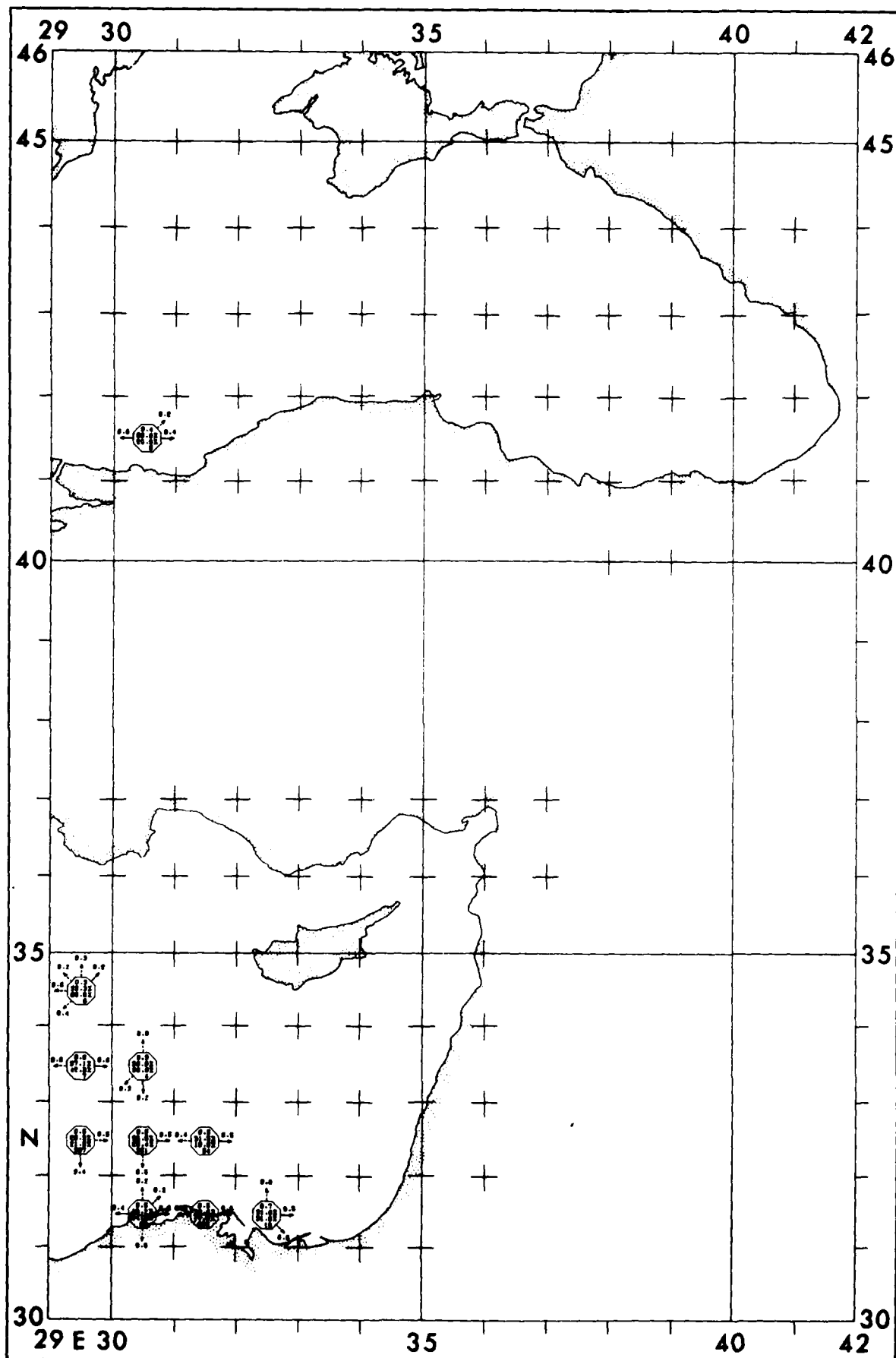


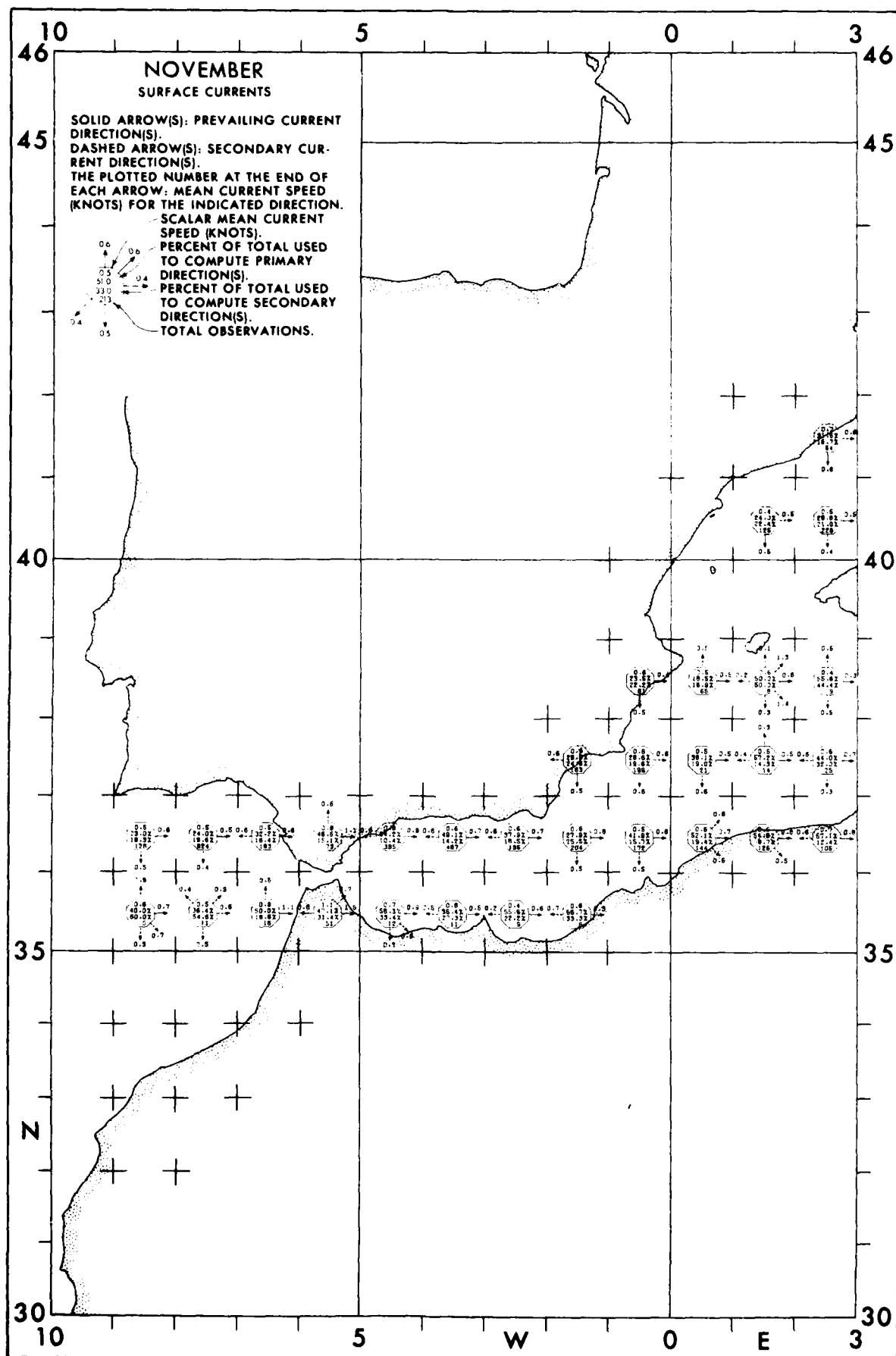


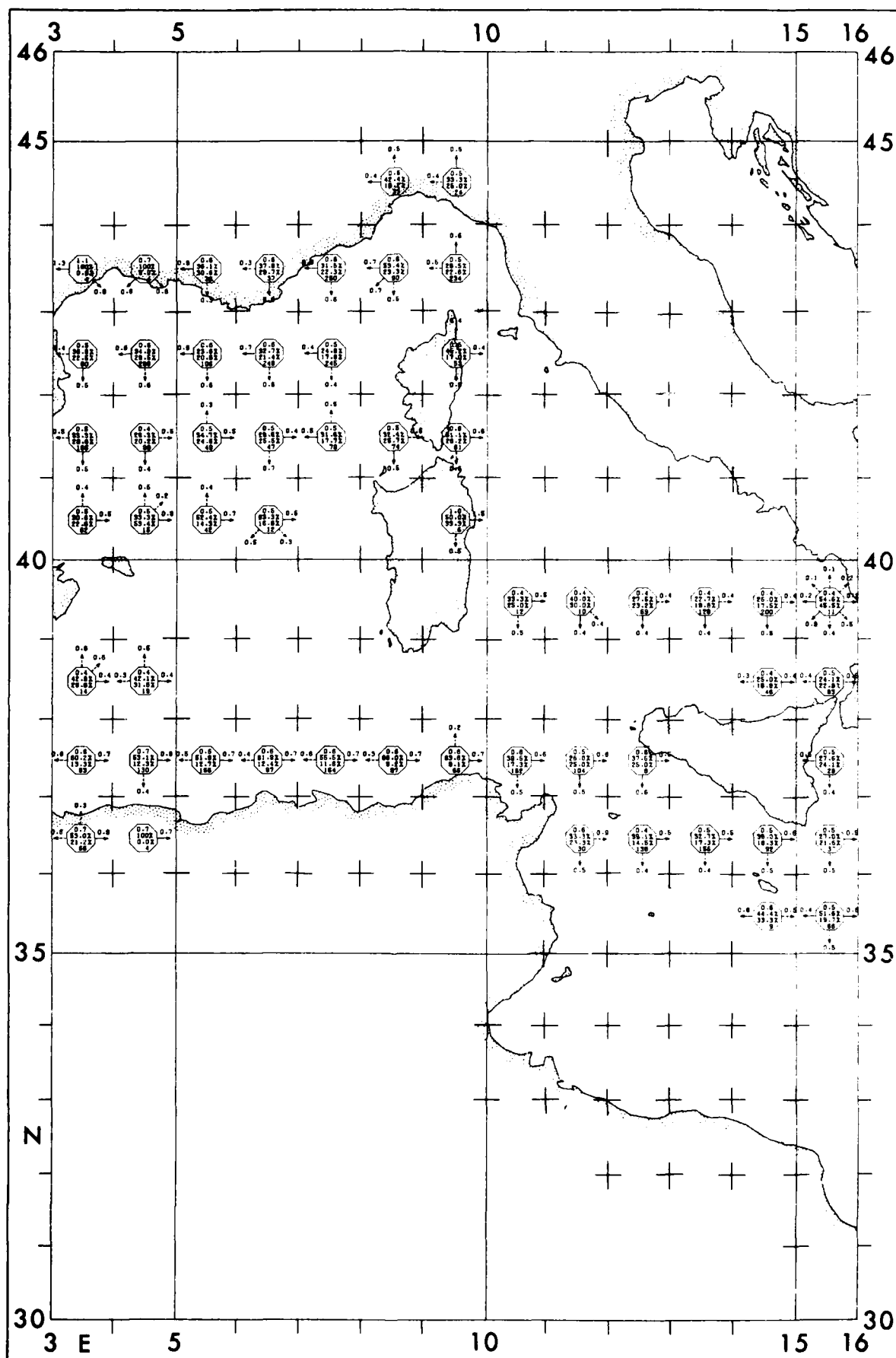


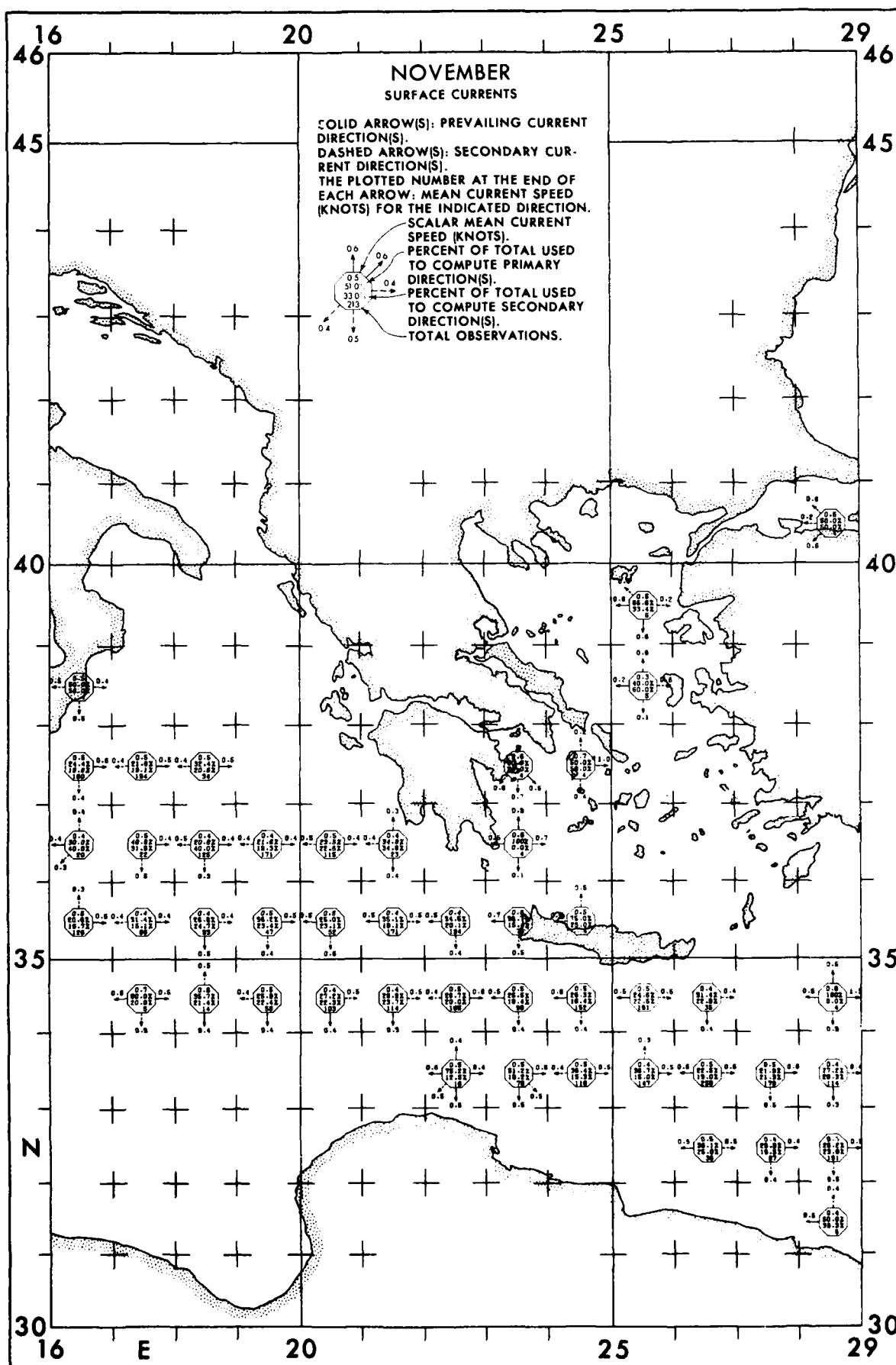


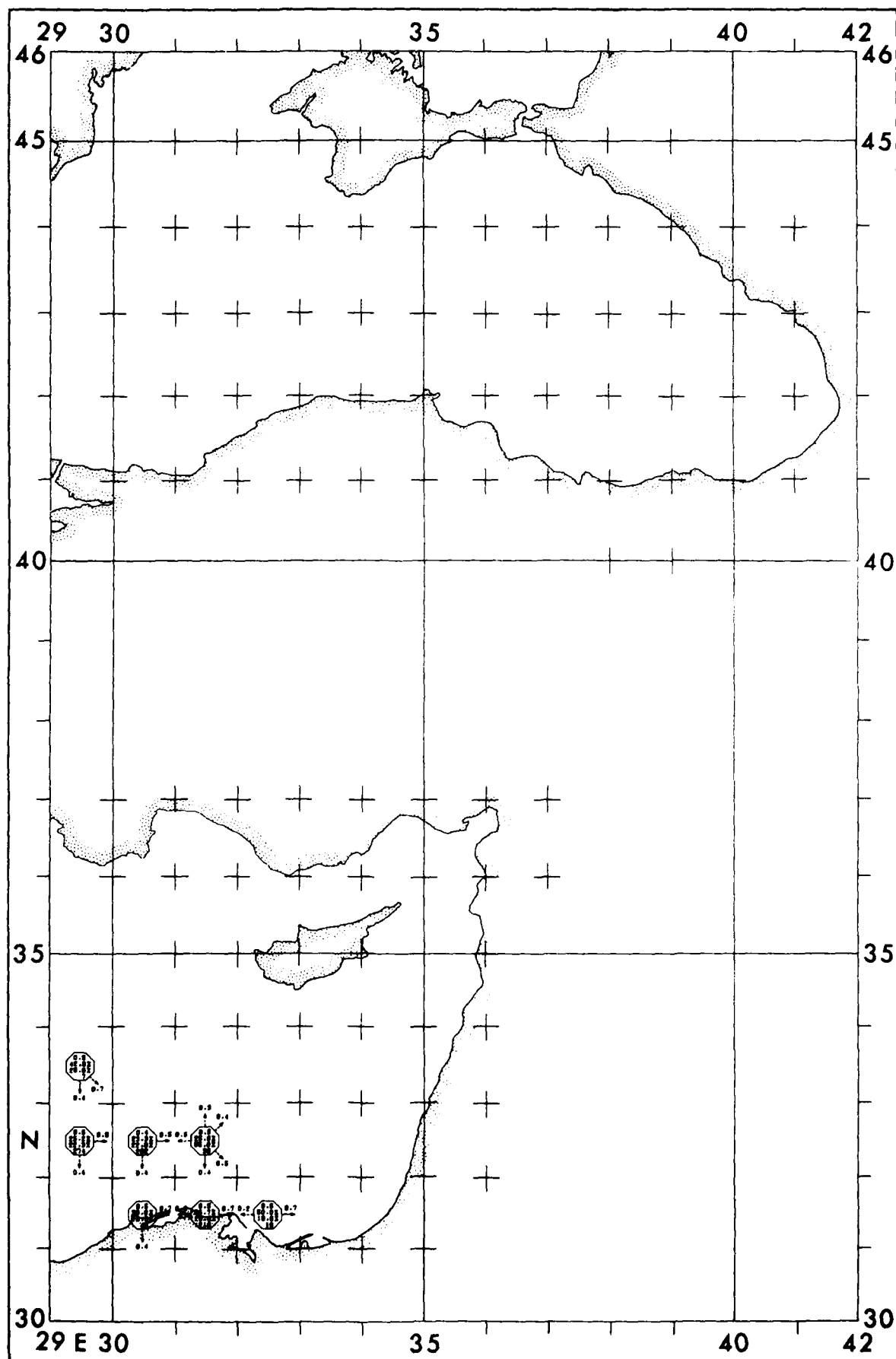


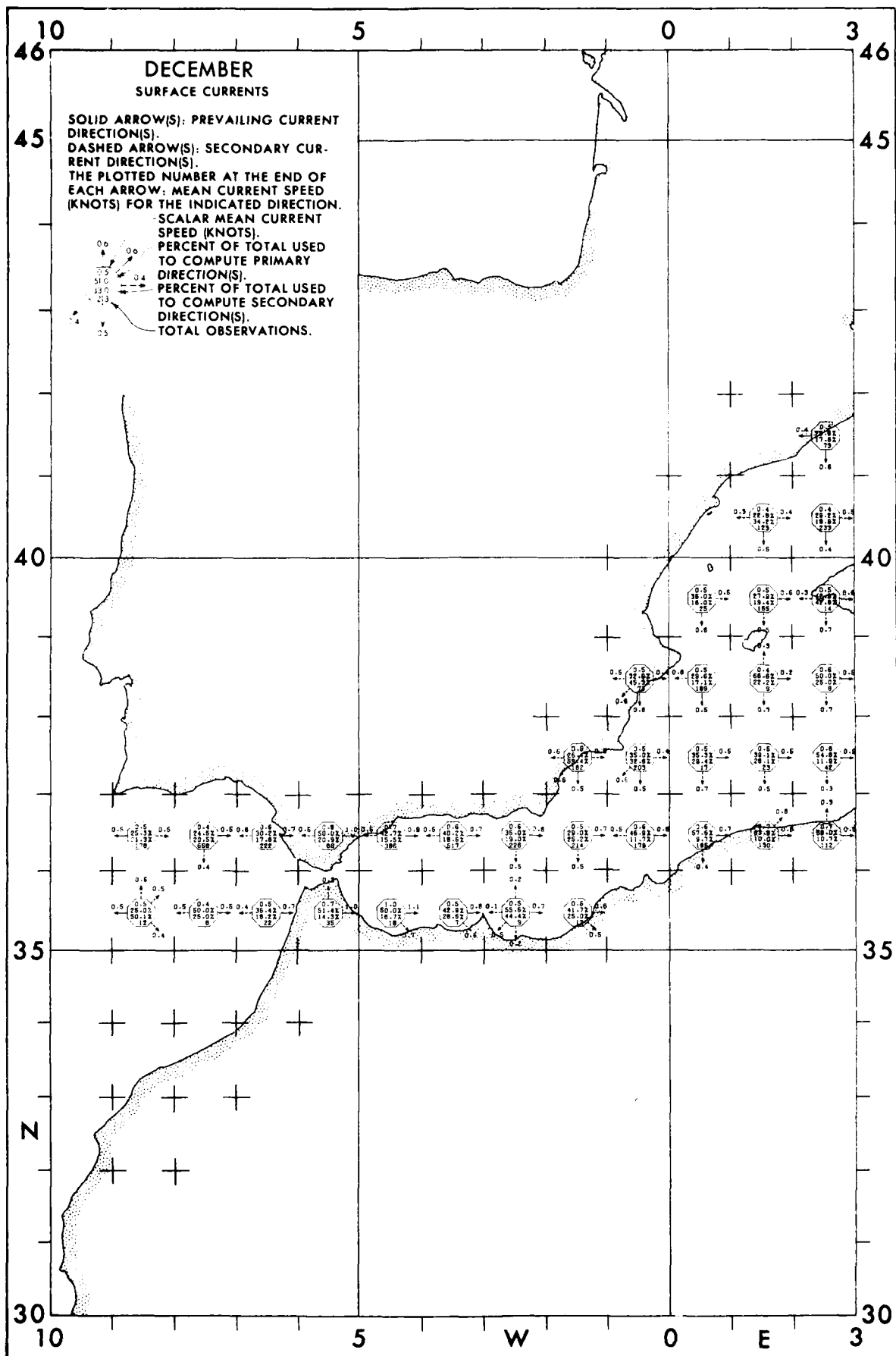


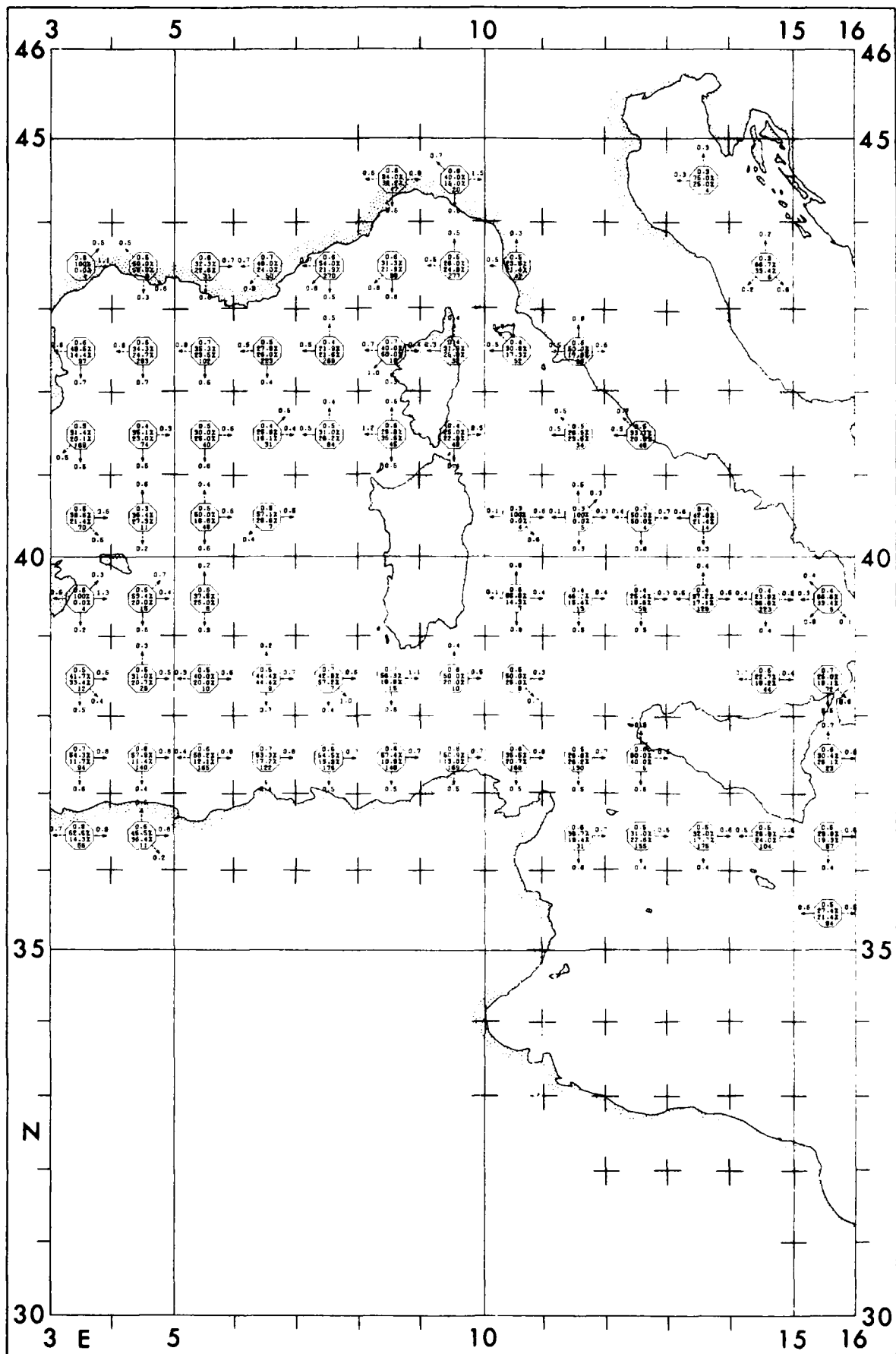


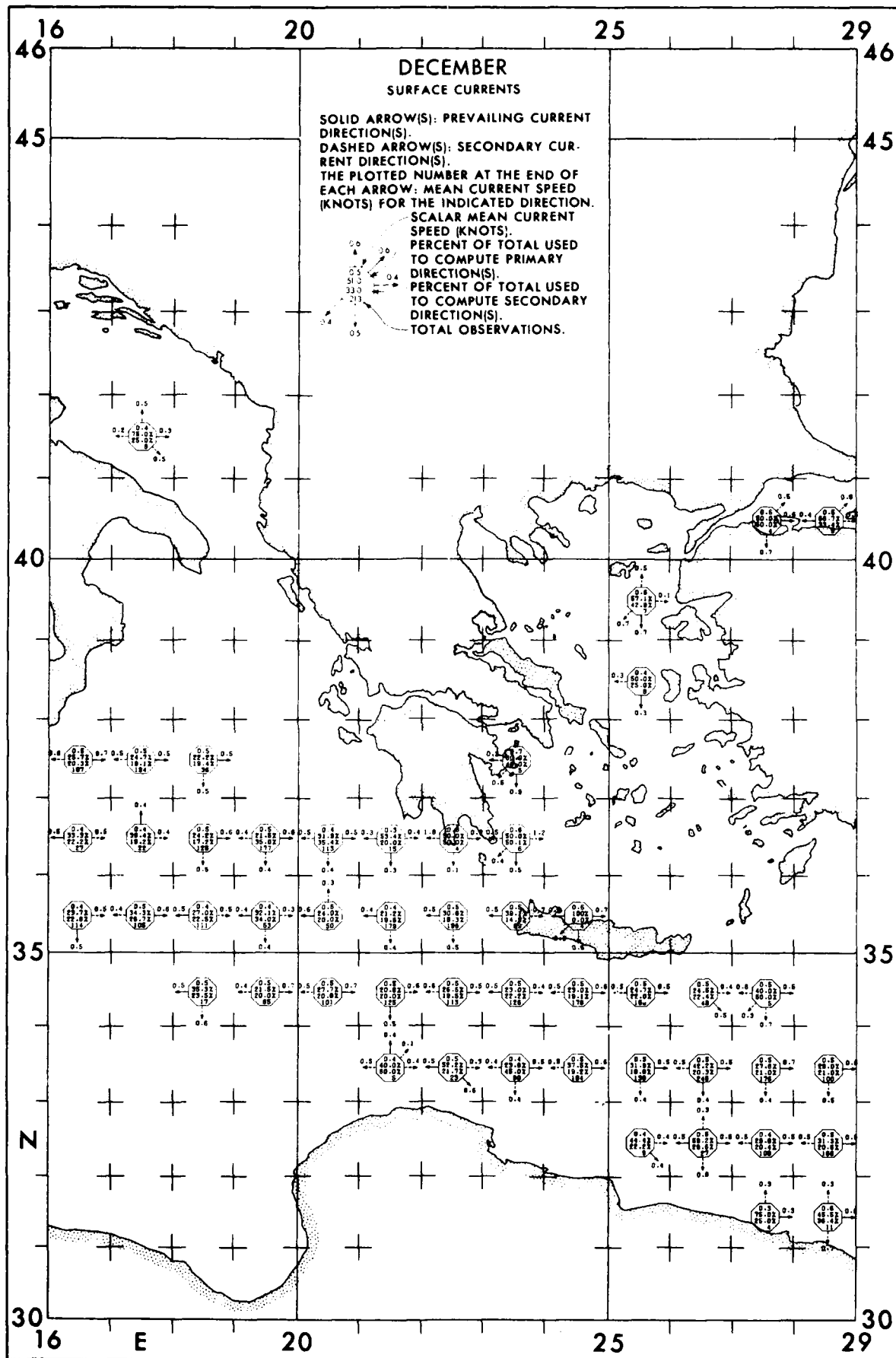


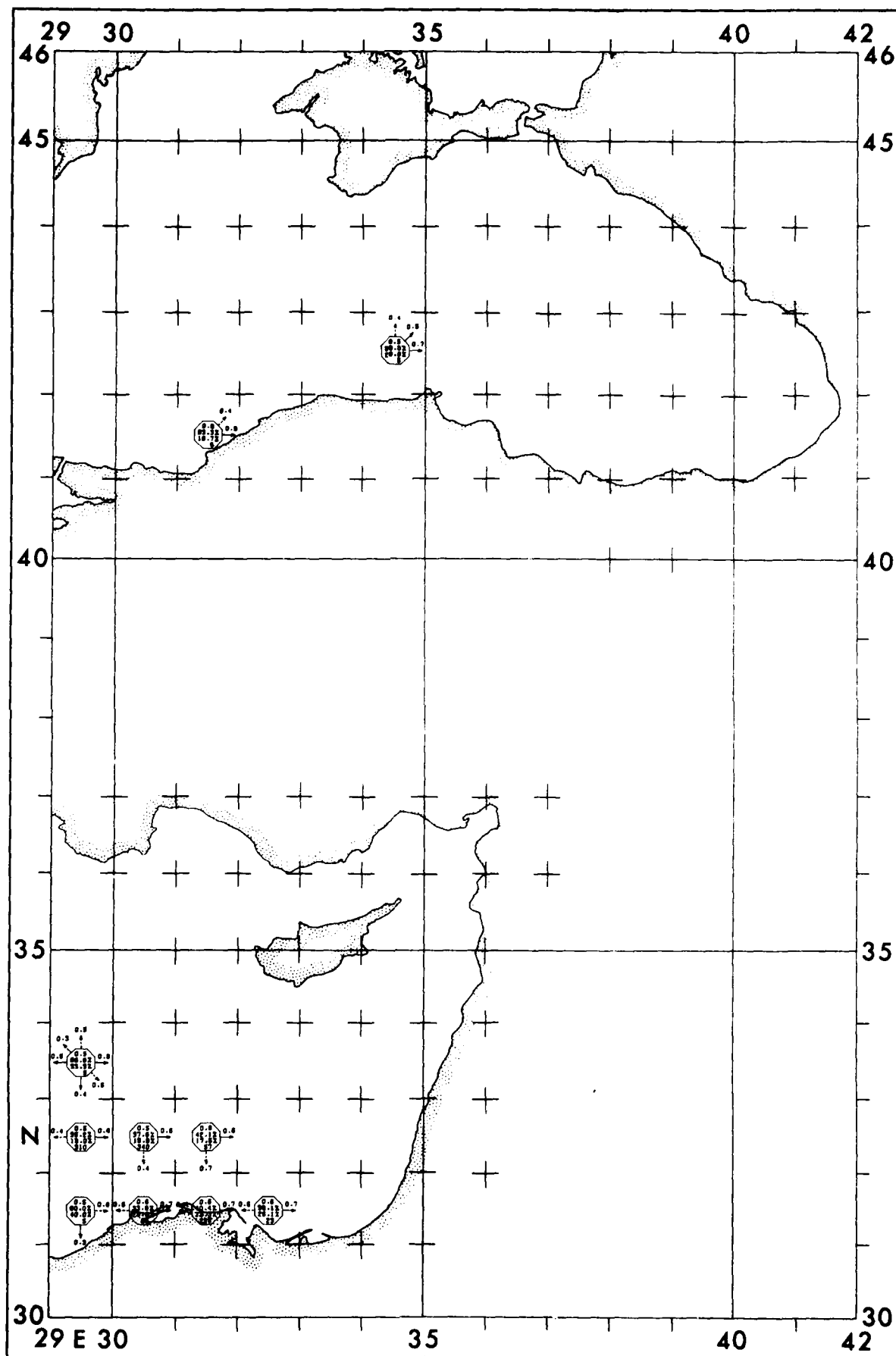












STATION CLIMATIC SUMMARIES

The following Station Climatic Summaries are based on data from many different sources, with most stations having variable periods-of-record. Considerable effort went into making these data as compatible as possible for each station. However, for some stations a more recent shorter period-of-record was selected over a longer period because the shorter record is more representative of the current climate. Also, in some instances, the station periods-of-record were mixed because only one period-of-record source could be found for a given element. For example, the mean daily maximum and minimum temperatures for a given station may have been based on a period other than that for the mean temperature because of incomplete data records. This practice sometimes gives inconsistencies in the summarized data set.

Station relocations and varying periods-of-record also introduce inconsistencies. For example, inconsistencies often appear when comparing absolute minimum temperatures from one period-of-record with the total number of days below freezing from another period.

Ideally, these Station Climatic Summaries should be generated from a relatively consistent long-term digital station data base. Unfortunately, that is not possible for most foreign-reporting stations at this time.

Summaries for the following stations appear in alphabetical order:

Ajaccio, Corsica	Nice, France
Algiers, Algeria	North Front, Gibraltar
Alexandria, Egypt	Palermo, Sicily
Athens, Greece	Paphos, Cyprus
Barcelona, Spain	Rhodes
Beirut, Lebanon	Rome, Italy
Benina, Libya	Sassari, Sardinia
Cagliari, Sardinia	Sigonella, Italy
Canakkale, Turkey	Souda Bay, Crete
Genova, Italy	Taranto, Italy
Istanbul, Turkey	Tel-Aviv, Israel
Lefkas, Greece	Tripoli, Libya
Marseille, France	Tunis, Tunisia
Naples, Italy	Venice, Italy

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

1. The first two steps are to identify the problem and to determine the scope of the problem. This is done by gathering information about the problem and its impact on the organization.

PREPARED BY: NOCD ASHEVILLE

STATION NAME: ALGIERS, ALGERIA
LOCATION: 36 43N 3 15E

ELEVATION: 61 FEET

WIND: 10 KPH

	TEMPERATURE (F)			PRECIPITATION (INCHES)					RELATIVE HUMIDITY		VAPOR PRESSURE INCHES OF MERCURY	DEW POINT (F)	PRESSURE ALTITUDE FEET (98 952)	SURFACE WIND (KTS)			MEAN NUMBER OF DAYS WITH	
	MEANS		EXTREME	MEAN	MAXIMUM	MINIMUM	24-HR MAXIMUM	SNOWFALL		PRECIPITATION				TEMPERATURE				
	MAXIMUM	MINIMUM	AVERAGE					MAXIMUM	MINIMUM						MEAN	MAXIMUM	24-HR MAXIMUM	
JAN	61	50	56	82	35	4.5	6.4	0.8	2.2	0			68	63	30	44		
FEB	63	50	57	87	35	3.4	7.6	0.0	1.1	0			69	61	30	44		
MAR	66	53	60	96	36	2.9	4.9	0.4	2.9	0			67	60	32	47		
APR	69	56	63	93	43	2.4	7.8	0.1	2.2	0			67	61	36	50		
MAY	75	61	68	108	50	1.1	4.1	0.0	2.4	0			65	60	44	54		
JUN	80	67	74	104	55	0.5	2.8	0.1	1.5	0			72	65	54	60		
JUL	83	71	77	108	62	0.1	0.6	0.0	0.6	0			71	64	63	65		
AUG	86	73	80	110	66	0.3	1.7	0.0	0.5	0			71	63	64	67		
SEP	82	70	77	109	55	0.9	5.1	0.0	1.9	0			68	62	67	58		
OCT	76	64	70	95	46	3.5	13.8	0.0	5.8	0			69	61	48	53		
NOV	69	57	63	93	41	4.8	11.2	0.1	3.2	0			68	61	18	51		
DEC	63	52	58	85	37	5.5	3.8	0.1	2.5	0			70	61	37	49		
ANN	73	60	67	110	35	28	42	8	21	9	5	3	69	62	43	54		
EYR	29	29	29	29	29	29	20	20	28	25			26	24	25	25		

* LESS THAN 0.5 DAYS, 0.5 OR 0.6 INCHES, 0.5 PERCENT AVERAGE

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT THE STATION IS AT AN ELEVATION OF 61 FEET ABOVE SEA LEVEL. OTHERWISE IT IS THE MEAN.

EYR IS EQUIVALENT YEARS OF RECORD. SEE THE ACTUAL NUMBER OF YEARS OF RECORD IN THE STATION.

FLYING WEATHER - PERCENT OF HOURS

HOOR (LST)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
CEILING LESS THAN 4000 FEET AND OR VISIBILITY LESS THAN 1 MI													
00	31	26	23	25	29	24	21	21	26	27	29	29	29
03	42	24	24	26	29	27	24	24	24	24	24	24	24
06	34	25	31	25	20	19	24	24	24	24	24	24	24
09	34	31	38	15	40	14	27	27	27	27	27	27	27
12	30	34	27	26	19	24	24	24	24	24	24	24	24
15	21	19	25	13	40	24	24	24	24	24	24	24	24
18	33	25	27	20	24	24	24	24	24	24	24	24	24
21	34	34	34	27	50	40	44	44	44	44	44	44	44
ALL HRS	32	26	29	30	23	24	24	24	24	24	24	24	24
CEILING LESS THAN 3000 FEET AND OR VISIBILITY LESS THAN 1 MI													
00	19	17	11	14	17	11	14	14	14	14	14	14	14
03	26	15	23	23	40	27	24	24	24	24	24	24	24
06	24	16	19	23	19	22	24	24	24	24	24	24	24
09	23	22	21	24	26	19	24	24	24	24	24	24	24
12	23	18	17	18	11	8	24	24	24	24	24	24	24
15	21	12	16	20	14	14	24	24	24	24	24	24	24
18	12	15	12	10	10	14	24	24	24	24	24	24	24
21	20	22	23	24	23	16	24	24	24	24	24	24	24
ALL HRS	22	18	16	19	16	11	10	8	12	14	14	14	14
CEILING LESS THAN 1000 FEET AND OR VISIBILITY LESS THAN 1 MI													
00	12	8	5	6	7	8	4	4	4	4	4	4	4
03	14	16	11	12	23	16	16	16	16	16	16	16	16
06	7	9	8	12	11	15	22	22	22	22	22	22	22
09	8	10	3	6	12	14	24	24	24	24	24	24	24
12	4	3	3	4	2	14	24	24	24	24	24	24	24
15	4	3	3	4	8	14	24	24	24	24	24	24	24
18	3	5	2	5	3	14	24	24	24	24	24	24	24
21	9	7	4	4	11	8	24	24	24	24	24	24	24
ALL HRS	7	7	5	4	11	8	4	4	4	4	4	4	4
CEILING LESS THAN 300 FEET AND OR VISIBILITY LESS THAN 1 MI													
00	8	6	3	7	2	3	5	4	4	4	4	4	4
03	5	6	4	3	4	11	12	12	12	12	12	12	12
06	5	6	4	3	4	6	12	12	12	12	12	12	12
09	0	3	0	0	1	0	0	0	0	0	0	0	0
12	0	0	0	0	1	0	0	0	0	0	0	0	0
15	0	0	0	0	1	0	0	0	0	0	0	0	0
18	0	1	0	0	0	0	0	0	0	0	0	0	0
21	0	2	0	0	0	0	0	0	0	0	0	0	0
ALL HRS	3	3	2	3	2	3	3	3	3	3	3	3	3

ALGIERS, ALGERIA

PREPARED BY: NOCO ASHEVILLE

STATION NAME: ALEXANDRIA, EGYPT
LOCATION: STATION 19 57E

ELEVATION: 100 FEET

AM. # 10378

	TEMPERATURE (F)					PRECIPITATION (INCHES)					RELATIVE HUMIDITY					WIND					WINDY					WINDY				
	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME	MEANS	EXTREME
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
JAN	54	48	54	48	54	48	54	48	54	48	54	48	54	48	54	48	54	48	54	48	54	48	54	48	54	48	54	48	54	48
FEB	55	49	55	49	55	49	55	49	55	49	55	49	55	49	55	49	55	49	55	49	55	49	55	49	55	49	55	49	55	49
MAR	57	51	57	51	57	51	57	51	57	51	57	51	57	51	57	51	57	51	57	51	57	51	57	51	57	51	57	51	57	51
APR	59	53	59	53	59	53	59	53	59	53	59	53	59	53	59	53	59	53	59	53	59	53	59	53	59	53	59	53	59	53
MAY	61	55	61	55	61	55	61	55	61	55	61	55	61	55	61	55	61	55	61	55	61	55	61	55	61	55	61	55	61	55
JUN	63	57	63	57	63	57	63	57	63	57	63	57	63	57	63	57	63	57	63	57	63	57	63	57	63	57	63	57	63	57
JUL	65	59	65	59	65	59	65	59	65	59	65	59	65	59	65	59	65	59	65	59	65	59	65	59	65	59	65	59	65	59
AUG	67	61	67	61	67	61	67	61	67	61	67	61	67	61	67	61	67	61	67	61	67	61	67	61	67	61	67	61	67	61
SEP	69	63	69	63	69	63	69	63	69	63	69	63	69	63	69	63	69	63	69	63	69	63	69	63	69	63	69	63	69	63
OCT	71	65	71	65	71	65	71	65	71	65	71	65	71	65	71	65	71	65	71	65	71	65	71	65	71	65	71	65	71	65
NOV	73	67	73	67	73	67	73	67	73	67	73	67	73	67	73	67	73	67	73	67	73	67	73	67	73	67	73	67	73	67
DEC	75	69	75	69	75	69	75	69	75	69	75	69	75	69	75	69	75	69	75	69	75	69	75	69	75	69	75	69	75	69
ANN	77	71	77	71	77	71	77	71	77	71	77	71	77	71	77	71	77	71	77	71	77	71	77	71	77	71	77	71	77	71
PER	79	73	79	73	79	73	79	73	79	73	79	73	79	73	79	73	79	73	79	73	79	73	79	73	79	73	79	73	79	73

REMARKS: (1) ALL DATA ARE BASED ON THE RECORDS OF THE STATION.

THE DATA ARE BASED ON THE RECORDS OF THE STATION. THE DATA ARE BASED ON THE RECORDS OF THE STATION. THE DATA ARE BASED ON THE RECORDS OF THE STATION.

REMARKS: (2) ALL DATA ARE BASED ON THE RECORDS OF THE STATION.

THE DATA ARE BASED ON THE RECORDS OF THE STATION. THE DATA ARE BASED ON THE RECORDS OF THE STATION. THE DATA ARE BASED ON THE RECORDS OF THE STATION.

FLYING WEATHER, PERCENT OF HOUR

HOURLY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PER
02	11	11	11	11	11	11	11	11	11	11	11	11	11	11
05	11	11	11	11	11	11	11	11	11	11	11	11	11	11
08	11	11	11	11	11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
14	11	11	11	11	11	11	11	11	11	11	11	11	11	11
17	11	11	11	11	11	11	11	11	11	11	11	11	11	11
20	11	11	11	11	11	11	11	11	11	11	11	11	11	11
23	11	11	11	11	11	11	11	11	11	11	11	11	11	11
ALL HRS	11	11	11	11	11	11	11	11	11	11	11	11	11	11
02	11	11	11	11	11	11	11	11	11	11	11	11	11	11
05	11	11	11	11	11	11	11	11	11	11	11	11	11	11
08	11	11	11	11	11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
14	11	11	11	11	11	11	11	11	11	11	11	11	11	11
17	11	11	11	11	11	11	11	11	11	11	11	11	11	11
20	11	11	11	11	11	11	11	11	11	11	11	11	11	11
23	11	11	11	11	11	11	11	11	11	11	11	11	11	11
ALL HRS	11	11	11	11	11	11	11	11	11	11	11	11	11	11
02	11	11	11	11	11	11	11	11	11	11	11	11	11	11
05	11	11	11	11	11	11	11	11	11	11	11	11	11	11
08	11	11	11	11	11	11	11	11	11	11	11	11	11	11
11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
14	11	11	11	11	11	11	11	11	11	11	11	11	11	11
17	11	11	11	11	11	11	11	11	11	11	11	11	11	11
20	11	11	11	11	11	11	11	11	11	11	11	11	11	11
23	11	11	11	11	11	11	11	11	11	11	11	11	11	11
ALL HRS	11	11	11	11	11	11	11	11	11	11	11	11	11	11

ALEXANDRIA, EGYPT

PREPARED BY: NOCD ASHEVILLE

STATION NAME: ATHENS INTL/HELLENIKON, GREECE
LOCATION: 37 54N 23 44W

ELEVATION: 1000

DATE: 12/16

	TEMPERATURE (F)					PRECIPITATION (INCHES)					RELATIVE HUMIDITY		WIND		SURFACE		MEAN NUMBER OF DAYS WITH	
	MEANS			EXTREME		MEAN	MAXIMUM	MINIMUM	24 HR MAXIMUM	SNOW ALL	HUMIDITY	WIND	SURFACE	WIND	SURFACE	WIND	SURFACE	
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM													
JAN	56	45	51	72	27	2	4	0	0	0	70	64	10	4	10	10	10	10
FEB	58	46	52	70	30	1	5	0	0	0	68	62	12	5	12	12	12	12
MAR	61	48	55	75	32	1	6	0	0	0	70	64	10	4	10	10	10	10
APR	68	54	61	82	41	0	1	0	0	0	68	62	12	5	12	12	12	12
MAY	75	62	69	93	46	0	0	0	0	0	75	69	14	6	14	14	14	14
JUN	84	69	77	97	54	0	0	0	0	0	84	77	16	8	16	16	16	16
JUL	90	74	82	102	61	0	0	0	0	0	90	82	18	10	18	18	18	18
AUG	90	74	82	102	61	0	0	0	0	0	90	82	18	10	18	18	18	18
SEP	84	69	77	97	54	0	0	0	0	0	84	77	16	8	16	16	16	16
OCT	75	62	69	93	46	0	0	0	0	0	75	69	14	6	14	14	14	14
NOV	68	54	61	82	41	0	0	0	0	0	68	62	12	5	12	12	12	12
DEC	60	49	55	75	32	1	6	0	0	0	70	64	10	4	10	10	10	10
ANN	72	59	66	108	27	14	8	22	8	1	72	66	18	10	18	18	18	18
EYR	13	13	13	13	13	20	20	20	20	1	72	66	18	10	18	18	18	18

LESS THAN 0.5 INCHES. 0.5 INCHES OR MORE. 0.5 INCHES OR MORE. 0.5 INCHES OR MORE.

THE VALUE LISTED UNDER PRECIPITATION IS A LIST OF INDICATED THAT VALUE IS A VALUE IN INCHES. THE VALUE WHEN LABELED "HRS" IS OTHERWISE 0.1 INCHES MEAN.

EYR IS EQUIVALENT YEARS OF RECORD. 0.1 INCHES OR MORE. 0.1 INCHES OR MORE. 0.1 INCHES OR MORE.

FLYING WEATHER, PERCENT OF HOURS													
HOURLY (EST)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 1 MI													
01	1	2	3	0	1	0	0	0	0	0	0	0	0
04	1	2	3	0	1	0	0	0	0	0	0	0	0
07	1	2	3	0	1	0	0	0	0	0	0	0	0
10	1	2	3	0	1	0	0	0	0	0	0	0	0
13	1	2	3	0	1	0	0	0	0	0	0	0	0
16	1	2	3	0	1	0	0	0	0	0	0	0	0
19	1	2	3	0	1	0	0	0	0	0	0	0	0
22	1	2	3	0	1	0	0	0	0	0	0	0	0
ALL HRS	1	2	3	0	1	0	0	0	0	0	0	0	0
CEILING LESS THAN 1500 FEET AND/OR VISIBILITY LESS THAN 1 MI													
01	1	0	0	0	0	0	0	0	0	0	0	0	0
04	1	0	0	0	0	0	0	0	0	0	0	0	0
07	1	0	0	0	0	0	0	0	0	0	0	0	0
10	1	0	0	0	0	0	0	0	0	0	0	0	0
13	1	0	0	0	0	0	0	0	0	0	0	0	0
16	1	0	0	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	0
22	1	0	0	0	0	0	0	0	0	0	0	0	0
ALL HRS	1	0	0	0	0	0	0	0	0	0	0	0	0
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 1 MI													
01	1	0	0	0	0	0	0	0	0	0	0	0	0
04	1	0	0	0	0	0	0	0	0	0	0	0	0
07	1	0	0	0	0	0	0	0	0	0	0	0	0
10	1	0	0	0	0	0	0	0	0	0	0	0	0
13	1	0	0	0	0	0	0	0	0	0	0	0	0
16	1	0	0	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	0
22	1	0	0	0	0	0	0	0	0	0	0	0	0
ALL HRS	1	0	0	0	0	0	0	0	0	0	0	0	0
CEILING LESS THAN 200 FEET AND/OR VISIBILITY LESS THAN 1 MI													
01	0	0	0	0	0	0	0	0	0	0	0	0	0
04	0	0	0	0	0	0	0	0	0	0	0	0	0
07	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0
ALL HRS	0	0	0	0	0	0	0	0	0	0	0	0	0

ATHENS INTL/HELLENIKON, GREECE

1998

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100  IF (X-1) = 0 THEN GOTO 101
101  IF (X-1) = 1 THEN GOTO 102
102  IF (X-1) = 2 THEN GOTO 103
103  IF (X-1) = 3 THEN GOTO 104
104  IF (X-1) = 4 THEN GOTO 105
105  IF (X-1) = 5 THEN GOTO 106
106  IF (X-1) = 6 THEN GOTO 107
107  IF (X-1) = 7 THEN GOTO 108
108  IF (X-1) = 8 THEN GOTO 109
109  IF (X-1) = 9 THEN GOTO 110
110  IF (X-1) = 10 THEN GOTO 111
111  IF (X-1) = 11 THEN GOTO 112
112  IF (X-1) = 12 THEN GOTO 113
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280  IF (X-1) = 180 THEN GOTO 281
281  IF (X-1) = 181 THEN GOTO 282
282  IF (X-1) = 182 THEN G
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1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971).

[illegible]

...the ...

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1. *Phragmites* (common in the marshes of the lower Mississippi River and in the coastal marshes of the Gulf of Mexico).

BARCELONA, SPAIN

PREPARED BY: WOOD ASHEVILLE

STATION NAME: BEIRUT, LEBANON
LOCATION: 33 49N 35 29E

ELEVATION: 79 FEET

WMO #: 40100

	TEMPERATURE (F)						PRECIPITATION (INCHES)						RELATIVE HUMIDITY		VAPOR PRESSURE INCHES OF MERCURY	DEW POINT (F)	PRESSURE ALTITUDE FEET 13535AL	SURFACE WIND (KTS)			MEAN CLOUD AMOUNT (%)	PRECIPITATION INCHES 0.01	MEAN NUMBER OF DAYS WITH							
	MEANS			EXTREME			MEAN			SNOWFALL			HUMIDITY					DIRECTION	SPEED	MAX GUST			THUNDERSTORMS	VISIBILITY MILES IN FOG		TEMPERATURE 11 22				
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM	24 HR MAXIMUM	MEAN	MAXIMUM	24 HR MAXIMUM	0800 LST	1400 LST										0800 LST	1400 LST		0800 LST	1400 LST	0800 LST	1400 LST
JAN	62	51	57	77	31	7.4				4.0	0			72	70	35			E	5	48		10							
FEB	63	51	57	87	30	6.2				3.5	0			72	70	34			E	7	44		10							
MAR	66	54	60	97	36	3				3.4	0			72	69	43			E	5	49		10							
APR	72	58	65	99	43	2.2				3.4	0			72	67	48			NW	7	47		10							
MAY	78	64	71	107	53	0.7				1.6	0			69	64	59			NW	7	29		10							
JUN	83	69	76	104	56	0.1				2.4	0			67	61	69			NW	7	16		10							
JUL	87	73	80	98	64	0				2.4	0			66	58	71			NW	8	49		10							
AUG	89	74	82	94	62	0				2.4	0			65	57	70			NW	7	29		10							
SEP	86	73	80	94	60	0.2				2.7	0			64	57	70			NW	6	43		10							
OCT	81	69	75	101	52	2.3				5.5	0			64	62	67			E	2	43		10							
NOV	73	61	67	91	41	5.2				4.1	0			67	67	63			E	8	47		10							
DEC	64	55	60	84	30	7.3				3.9	0			71	64	59			E	10	43		10							
ANN	75	63	69	107	30	35.2				5.4	0			68	64	65			E	7	44		10							
EYR	62	52	62	62	62	7.1				58	62			30	30	23			NW	19	19		20							

LESS THAN 0.5 DAYS, 0.5 OR 1.0 INCH, 0.5 PERCENT, 0.01 INCH, 0.01

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EFFECTIVE IN ALL YEARS, THE YEARS WHEN LABELED 99, 99% OTHERWISE IT IS THE MEAN.

EYR IS EQUIVALENT YEARS OF RECORD, IT IS THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATION.

FLYING WEATHER, DAWN TO DUSK

HOURLY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
02	28	24	23	24	24	24	24	24	24	24	24	24	24	24
05	25	24	25	27	27	27	27	27	27	27	27	27	27	27
08	27	25	27	27	27	27	27	27	27	27	27	27	27	27
11	28	26	27	27	27	27	27	27	27	27	27	27	27	27
14	28	26	27	27	27	27	27	27	27	27	27	27	27	27
17	28	26	27	27	27	27	27	27	27	27	27	27	27	27
20	28	26	27	27	27	27	27	27	27	27	27	27	27	27
23	28	26	27	27	27	27	27	27	27	27	27	27	27	27
ALL HRS	28	26	26	27	27	27	27	27	27	27	27	27	27	27
02	27	23	23	27	27	27	27	27	27	27	27	27	27	27
05	25	23	24	27	27	27	27	27	27	27	27	27	27	27
08	26	23	24	27	27	27	27	27	27	27	27	27	27	27
11	26	23	24	27	27	27	27	27	27	27	27	27	27	27
14	27	24	25	27	27	27	27	27	27	27	27	27	27	27
17	27	24	25	27	27	27	27	27	27	27	27	27	27	27
20	27	24	25	27	27	27	27	27	27	27	27	27	27	27
23	27	24	25	27	27	27	27	27	27	27	27	27	27	27
ALL HRS	27	23	23	27	27	27	27	27	27	27	27	27	27	27
02	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05	1	0	0	0	0	0	0	0	0	0	0	0	0	0
08	1	0	0	0	0	0	0	0	0	0	0	0	0	0
11	1	0	0	0	0	0	0	0	0	0	0	0	0	0
14	2	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALL HRS	1	0	0	0	0	0	0	0	0	0	0	0	0	0
02	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALL HRS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BEIRUT, LEBANON

DOI: 10.1002/anie.200525529

[illegible]

321

WMO #: 16560

	TEMPERATURE (F)					PRECIPITATION (INCHES)					RELATIVE		VAPOR PRESSURE INCHES OF MERCURY	DEW POINT (F)	PRESSURE ALTITUDE FEET LAST YEAR	SURFACE			MEAN CLOUD AMOUNT TENTHS	MEAN NUMBER OF DAYS WITH				
	MEANS			EXTREME		24-HR MAXIMUM	24-HR MINIMUM	MEAN	MAXIMUM	MINIMUM	HUMIDITY	WIND DIRECTION				SPEED	MAX GUST	PRECIPITATION INCHES LAST YEAR		THUNDERSTORMS GROSS EST	VISIBILITY IN MI IN FOG	1300 EST	TEMPERATURE AT 90	TEMPERATURE AT 70
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM																			
JAN	57	42	49	68	26	2 6	15 8	0 2	1 2		80	24		H	7	40	5	8	0		0			
FEB	58	43	50	69	26	1 9	5 2	0 1	2 1		78	25		H	8	35	6	7	1	0				
MAR	62	45	53	81	28	1 6	3 8	0 1	1 1		71	27		H	8	40	4	7	1	0				
APR	65	49	57	82	35	1 1	2 3	0 0	1 1		76	31		H	8	38	4	5	1	0				
MAY	72	55	63	85	44	1 0	4 4	0 1	0 9		75	35		H	8	30	4	4	1	0				
JUN	80	56	71	100	47	0 5	3 4	0 0	1 4		70	44		H	8	30	4	4	1	0				
JUL	86	56	75	100	55	0 1	0 5	0 0	0 2		70	50		H	8	30	3	4	1	0				
AUG	85	67	76	101	54	0 5	0 3	0 0	1 7		72	53		H	8	27	3	4	1	0				
SEP	80	64	72	102	51	1 1	2 9	0 0	1 9		74	49		H	8	30	3	4	1	0				
OCT	74	57	65	88	43	2 4	10 2	0 4	2 0		77	41		SE	7	30	3	4	1	0				
NOV	66	50	57	77	33	2 6	5 4	0 4	2 1		77	37		SE	7	38	4	9	1	0				
DEC	62	45	52	71	32	2 5	6 2	0 6	3 0		80	27		SE	7	27	6	9	1	0				
ANN	71	52	62	102	26	18 0	29 1	10 3	3 0		76	35		H	8	27	4	6	15	3	0			
EYR	10	10	20	10	10	20	20	20	10		10	30		H	8	30	16	6	6	6	0			

EYR IS EQUIVALENT YEARS OF RECORD I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATION

[illegible]

CAGLIARI, SARDINIA

PREPARED BY: NCOO ASHEVILLE

STATION NAME: CANAKKALE, TURKEY
LOCATION: 40 08N 26 24E

ELEVATION: 13 FEET

WMO #: 17112

	TEMPERATURE (°F)			PRECIPITATION (INCHES)			RELATIVE HUMIDITY			SURFACE WIND (KTS)			MEAN NUMBER OF DAYS WITH		
	MEANS			EXTREME			SNOWFALL			HUMIDITY			PRECIPITATION		
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM	24 HR MAXIMUM	MEAN	MAXIMUM	24 HR MAXIMUM	SNOWFALL	THUNDERSTORMS	TEMPERATURE
JAN			46			4	8	0							
FEB			45			3	2	0	8						
MAR			46			2	6	0	4	1	3				
APR			54			1	1	0	4						
MAY			63			1	3	0	2						
JUN			71			1	6	4							
JUL			77			0	4	1	0	0					
AUG			76			0	6	2	0	0					
SEP			68			1	1	4	0	0					
OCT			61			2	3	6	0	1					
NOV			54			3	3	8	1	0	3				
DEC			46			4	3	9	0	2					
ANN			66			21	4	38	5	20	5				
1-HR			20			20	20	20							

* LESS THAN 0.5 DAYS, 0.5 OR 0.05 (INCH), OR 1.5 PERCENT A. APPLICABLE

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EXTREMELY UNUSUAL FOR THE TIME WHEN LABELED 99.95% OTHERWISE IT IS THE MEAN

ETP IS EQUIVALENT YEAR OF RECORD (1981) THE A. T. A. NUMBER OF HOURS (1000) ON THE A. T. A. (1000)

FLYING WEATHER, PERCENT OF HOUR

HOURLY PERCENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	PER
CEILING LESS THAN 1000 FEET AND OR VISIBILITY LESS THAN 1.0 MI.														
02	14	11	13	4	5	1	1	1	1	1	1	1	1	1
05	16	17	8	3	2	1	1	1	1	1	1	1	1	1
08	16	24	13	8	9	4	1	1	1	1	1	1	1	1
11	17	16	15	1	1	1	1	1	1	1	1	1	1	1
14	16	18	13	5	7	1	1	1	1	1	1	1	1	1
17	16	11	11	8	1	1	1	1	1	1	1	1	1	1
20	15	12	8	5	2	1	1	1	1	1	1	1	1	1
23	11	14	8	3	1	1	1	1	1	1	1	1	1	1
ALL HRS	14	16	12	5	6	2	1	1	1	1	1	1	1	1
CEILING LESS THAN 1000 FEET AND OR VISIBILITY LESS THAN 1.0 MI.														
02	13	9	9	1	2	0	0	0	0	0	0	0	0	0
05	12	13	1	1	4	0	0	0	0	0	0	0	0	0
08	14	18	1	1	1	0	0	0	0	0	0	0	0	0
11	16	10	9	1	1	0	0	0	0	0	0	0	0	0
14	12	11	5	1	1	0	0	0	0	0	0	0	0	0
17	14	11	4	1	1	0	0	0	0	0	0	0	0	0
20	10	11	1	1	1	0	0	0	0	0	0	0	0	0
23	10	11	1	1	1	0	0	0	0	0	0	0	0	0
ALL HRS	13	11	1	1	1	0	0	0	0	0	0	0	0	0
CEILING LESS THAN 1000 FEET AND OR VISIBILITY LESS THAN 1.0 MI.														
02	1	1	1	0	0	0	0	0	0	0	0	0	0	0
05	1	1	1	1	1	0	0	0	0	0	0	0	0	0
08	1	1	1	1	1	0	0	0	0	0	0	0	0	0
11	5	6	1	1	1	0	0	0	0	0	0	0	0	0
14	1	1	1	1	1	0	0	0	0	0	0	0	0	0
17	1	1	1	1	1	0	0	0	0	0	0	0	0	0
20	1	1	1	1	1	0	0	0	0	0	0	0	0	0
23	1	1	1	1	1	0	0	0	0	0	0	0	0	0
ALL HRS	1	1	1	1	1	0	0	0	0	0	0	0	0	0
CEILING LESS THAN 300 FEET AND OR VISIBILITY LESS THAN 0.5 MI.														
02	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05	1	0	0	0	0	0	0	0	0	0	0	0	0	0
08	1	1	0	0	0	0	0	0	0	0	0	0	0	0
11	4	0	0	0	0	0	0	0	0	0	0	0	0	0
14	4	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1	0	0	0	0	0	0	0	0	0	0	0	0	0
20	1	0	0	0	0	0	0	0	0	0	0	0	0	0
23	1	0	0	0	0	0	0	0	0	0	0	0	0	0
ALL HRS	2	0	0	0	0	0	0	0	0	0	0	0	0	0

CANAKKALE, TURKEY

	TEMPERATURE (F)					PRECIPITATION (INCHES)					RELATIVE HUMIDITY	VAPOR PRESSURE (INCHES OF MERCURY)		SURFACE WIND (KNOTS)			MEAN NUMBER OF DAYS WITH				
	MEANS		EXTREME			SNOWFALL								WIND DIRECTION AND SPEED		PRECIPITATION		TEMPERATURE			
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM	24 HR MAXIMUM	MEAN	MAXIMUM	24 HR MAXIMUM	MEAN	MAXIMUM	24 HR MAXIMUM	WIND DIRECTION	WIND SPEED		MAX GUST	MEAN	THUNDERSTORMS
JAN	51	41	46	66	23	4	1	17	1	66	13	14	32	1	1	1	1	1	1	1	1
FEB	52	43	47	68	18	4	3	14	0	65	13	14	33	1	1	1	1	1	1	1	1
MAR	57	47	52	75	10	4	2	17	0	67	15	17	34	1	1	1	1	1	1	1	1
APR	63	52	57	80	38	3	1	11	0	68	21	22	41	1	1	1	1	1	1	1	1
MAY	68	58	64	86	45	3	1	9	0	71	26	28	54	1	1	1	1	1	1	1	1
JUN	75	64	70	91	52	2	0	9	0	69	36	37	67	1	1	1	1	1	1	1	1
JUL	80	69	75	98	58	1	0	8	0	66	39	40	68	1	1	1	1	1	1	1	1
AUG	80	69	75	95	58	1	0	13	0	65	39	42	68	1	1	1	1	1	1	1	1
SEP	76	65	70	93	52	4	3	11	0	67	35	39	59	1	1	1	1	1	1	1	1
OCT	69	58	62	85	38	1	0	10	0	68	27	29	60	1	1	1	1	1	1	1	1
NOV	59	50	54	75	30	7	1	28	0	65	19	21	42	1	1	1	1	1	1	1	1
DEC	54	46	49	69	27	5	0	25	0	65	16	17	39	1	1	1	1	1	1	1	1
ANN	65	55	60	98	18	5	1	16	0	67	25	27	49	1	1	1	1	1	1	1	1
EVR	16	16	30	30	30	50	20	120	1	70	8	8	4	30	12	12	2	50	10	5	1

LESS THAN 0.5 DAYS, 0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EXCEEDED ONLY 5 OF 10 OF THE TIME WHEN LABELED 99.95% OTHERWISE IT IS THE MEAN

EVR IS EQUIVALENT YEARS OF RECORD (16) - THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATIONS

FLYING WEATHER - PERCENT OF HOURS

WIND DIRECTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	hrs
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 1.0 MI	01	51	67	19	31	10	14	67	67	67	65	63	55	10
01	34	50	66	47	41	59	66	67	67	67	65	63	64	10
01	10	67	67	19	41	14	14	67	67	67	65	63	64	10
01	13	67	67	19	41	14	14	67	67	67	65	63	64	10
01	16	67	67	19	41	14	14	67	67	67	65	63	64	10
01	19	67	67	19	41	14	14	67	67	67	65	63	64	10
01	22	67	67	19	41	14	14	67	67	67	65	63	64	10
ALL HRS	60	60	60	60	60	60	60	60	60	60	60	60	60	10
CEILING LESS THAN 3000 FEET AND/OR VISIBILITY LESS THAN 2.0 MI	01	19	40	14	23	26	26	27	27	27	30	28	27	10
01	34	36	30	26	28	26	26	27	27	27	29	28	27	10
01	10	41	38	33	31	33	26	26	27	27	30	28	27	10
01	13	40	39	32	30	34	26	26	27	27	30	28	27	10
01	16	38	37	31	33	26	26	26	27	27	30	28	27	10
01	19	38	37	34	30	26	26	26	27	27	30	28	27	10
01	22	34	37	27	26	26	26	26	27	27	30	28	27	10
ALL HRS	36	38	29	29	29	26	22	20	29	30	33	24	24	10
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 2.0 MI	01	5	5	5	3	1	2	1	4	3	0	0	1	10
01	12	4	6	6	4	1	1	1	1	1	1	1	1	10
01	13	4	6	6	4	1	1	1	1	1	1	1	1	10
01	14	4	6	6	4	1	1	1	1	1	1	1	1	10
01	16	4	6	6	4	1	1	1	1	1	1	1	1	10
01	19	4	6	6	4	1	1	1	1	1	1	1	1	10
01	22	4	6	6	4	1	1	1	1	1	1	1	1	10
ALL HRS	50	5	5	5	3	1	2	1	4	3	0	0	1	10
CEILING LESS THAN 3000 FEET AND/OR VISIBILITY LESS THAN 2.0 MI	01	1	1	1	0	0	0	0	0	0	0	0	1	10
01	1	1	1	1	0	0	0	0	0	0	0	0	1	10
01	1	1	1	1	0	0	0	0	0	0	0	0	1	10
01	1	1	1	1	0	0	0	0	0	0	0	0	1	10
01	1	1	1	1	0	0	0	0	0	0	0	0	1	10
01	1	1	1	1	0	0	0	0	0	0	0	0	1	10
01	1	1	1	1	0	0	0	0	0	0	0	0	1	10
ALL HRS	1	1	1	1	0	0	0	0	0	0	0	0	1	10

GENOVA, ITALY

PREPARED BY: NCOO ASHEVILLE

STATION NAME: LEFKAS, GREECE
LOCATION: 38 50N 20 43E

ELEVATION: 23 FEET

WMO #: 16669

	TEMPERATURE (F)						PRECIPITATION (INCHES)						RELATIVE HUMIDITY		VAPOR PRESSURE INCHES OF MERCURY	DEW POINT (F)	PRESSURE ALTITUDE FEET (95.952)	SURFACE WIND (KTS)			MEAN CLOUD AMOUNT (TENTHS)	MEAN NUMBER OF DAYS WITH																	
	MEANS			EXTREME						SNOWFALL								DIRECTION	SPEED	MAX GUST		PRECIPITATION		THUNDERSTORMS	TEMPERATURE														
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM	24 HR MAXIMUM	MEAN	MAXIMUM	24 HR MAXIMUM										MEAN										SNOWFALL			90	95	99		
JAN	57	43	50	68	23	6.2							82		44			SE	4	30																			
FEB	60	44	52	72	25	4.8							82		40			SE	4	40																			
MAR	61	46	54	77	30	3.6							80		47			SE	5	37																			
APR	66	51	59	75	36	2.5							80		52			NW	6	45																			
MAY	75	59	67	86	48	1.6							80		67			NW	5	36																			
JUN	82	65	74	95	56	0.8							75		64			NW	5	33																			
JUL	87	70	79	97	55	0.2							73		68			NW	5	30																			
AUG	88	70	79	104	59	0.8							74		79			NW	5	38																			
SEP	81	65	73	99	50	1.9							78		65			NW	4	30																			
OCT	73	58	66	86	47	5.7							82		59			NW	4	35																			
NOV	64	51	58	75	34	6.2							84		52			SE	5	37																			
DEC	59	46	53	73	25	8.4							84		48			SE	5	37																			
ANN	71	56	64	84	28	4.6							80		56			NW	5	45																			
EVR	71	51	59	74	33	25							8		70			16	16	16																			

LESS THAN 0.5 DAYS, 0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EXCEEDED ONLY 0.5% OF THE TIME WHEN LABELED 99.95% OTHERWISE IT IS THE MEAN

EVR IS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATIONS)

FLYING WEATHER, PERCENT OF HOURS

CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 2 1/2 MI	CEILING LESS THAN 3300 FEET AND/OR VISIBILITY LESS THAN 2 1/2 MI	CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 2 1/2 MI	CEILING LESS THAN 360 FEET AND/OR VISIBILITY LESS THAN 1 1/4 MI
HOUR LIST: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC ANN EVR 01 0 0 0 0 0 0 0 0 0 0 0 0 0 04 0 0 0 0 0 0 0 0 0 0 0 0 0 07 0 0 0 0 0 0 0 0 0 0 0 0 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 13 0 0 0 0 0 0 0 0 0 0 0 0 0 16 0 0 0 0 0 0 0 0 0 0 0 0 0 19 0 0 0 0 0 0 0 0 0 0 0 0 0 22 0 0 0 0 0 0 0 0 0 0 0 0 0 ALL HRS 0 0 0 0 0 0 0 0 0 0 0 0 0	01 0 0 0 0 0 0 0 0 0 0 0 0 0 04 0 0 0 0 0 0 0 0 0 0 0 0 0 07 0 0 0 0 0 0 0 0 0 0 0 0 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 13 0 0 0 0 0 0 0 0 0 0 0 0 0 16 0 0 0 0 0 0 0 0 0 0 0 0 0 19 0 0 0 0 0 0 0 0 0 0 0 0 0 22 0 0 0 0 0 0 0 0 0 0 0 0 0 ALL HRS 0 0 0 0 0 0 0 0 0 0 0 0 0	01 0 0 0 0 0 0 0 0 0 0 0 0 0 04 0 0 0 0 0 0 0 0 0 0 0 0 0 07 0 0 0 0 0 0 0 0 0 0 0 0 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 13 0 0 0 0 0 0 0 0 0 0 0 0 0 16 0 0 0 0 0 0 0 0 0 0 0 0 0 19 0 0 0 0 0 0 0 0 0 0 0 0 0 22 0 0 0 0 0 0 0 0 0 0 0 0 0 ALL HRS 0 0 0 0 0 0 0 0 0 0 0 0 0	01 0 0 0 0 0 0 0 0 0 0 0 0 0 04 0 0 0 0 0 0 0 0 0 0 0 0 0 07 0 0 0 0 0 0 0 0 0 0 0 0 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 13 0 0 0 0 0 0 0 0 0 0 0 0 0 16 0 0 0 0 0 0 0 0 0 0 0 0 0 19 0 0 0 0 0 0 0 0 0 0 0 0 0 22 0 0 0 0 0 0 0 0 0 0 0 0 0 ALL HRS 0 0 0 0 0 0 0 0 0 0 0 0 0

LEFKAS, GREECE

PREPARED BY: WOOD ASHEVILLE

STATION NAME: MARSEILLE, FRANCE
LOCATION: 43 2'N 5 13'W

ELEVATION: 17' ASL

WMO #: 07656

	TEMPERATURE (F)						PRECIPITATION (INCHES)						RELATIVE HUMIDITY		VAPOR PRESSURE (INCHES OF MERCURY)		PRESSURE AT SURFACE (INCHES OF MERCURY)		WIND (MILES PER HOUR)		SURFACE WIND (MILES PER HOUR)		MEAN NUMBER OF DAYS WITH	
	MEANS			EXTREME			MEAN			MAXIMUM			MEAN	MAXIMUM	MEAN	MAXIMUM	MEAN	MAXIMUM	DIRECTION	SPEED	DIRECTION	SPEED	PRECIPITATION	TEMPERATURE
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM	24 HR. MAXIMUM	MEAN	MAXIMUM	24 HR. MAXIMUM												
JAN	50	35	43	68	18	14	37	0.2	3.3				74	21	32	NNW	8	5	6					
FEB	53	35	44	71	20	19	48	0.1	2.8				74	20	36	NNW	8	5	4					
MAR	59	41	50	75	14	16	38	0.0	2.0				69	26	40	NNW	8	5	4					
APR	64	46	56	83	28	14	45	0.0	2.8				66	31	44	NNW	10	5	3					
MAY	71	52	63	91	32	15	37	0.1	2.9				64	39	49	NNW	8	5	3					
JUN	79	58	69	99	42	18	28	0.1	2.7				61	44	55	NNW	8	4	3					
JUL	84	63	74	102	46	15	24	0.1	2.4				58	52	58	NNW	8	4	3					
AUG	83	63	73	98	47	11	33	0.1	2.4				63	52	58	NNW	8	4	3					
SEP	77	58	68	94	34	15	28	0.2	6.5				68	48	56	NNW	8	4	3					
OCT	68	51	60	86	28	17	67	0.3	8.7				73	38	49	NNW	8	5	3					
NOV	58	43	51	73	22	17	67	0.2	5.5				75	30	42	NNW	8	5	3					
DEC	52	37	45	68	9	24	68	0.4	3.6				76	23	37	NNW	8	4	3					
ANN	67	48	58	102	21	13	37	0.1	2.8				69	42	46	NNW	8	4	3					
EYR	30	10	20	30	12	10	20	1.7	6.4				71	12	12	NNW	8	4	3					

LESS THAN 0.5 DAYS, 0.5 OR 0.0 OR INCH, 0% OR 100% AS APPLICABLE

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EITHER 10% OR 90% OF THE MEAN WHEN LABELED 10 95% OTHERWISE IT IS THE MEAN

EYR IS EQUIVALENT YEARS OF RECORD FOR THE ABOVE NUMBER X YEARS TO LISTED ON THE LOCATION

MARSEILLE, FRANCE

PREPARED BY: NOCO ASHEVILLE

STATION NAME: NAPLES, ITALY
LOCATION: 40 53N 14 17E

ELEVATION: 2891 FEET

WMO #: 16289

	TEMPERATURE (F)					PRECIPITATION (INCHES)					RELATIVE		VAPOR PRESSURE INCHES OF MERCURY	DEW POINT (F)	PRESSURE ALTITUDE FEET (98.43)	SURFACE		MEAN NUMBER OF DAYS WITH											
	MEANS			EXTREME		SNOWFALL			HUMIDITY	WIND DIRECTION	WIND SPEED	WIND GUST				PRECIPITATION		THUNDERSTORMS ACTIVITY IN 100	TEMPERATURE										
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM								24-HR MAXIMUM	MEAN		MAXIMUM	24-HR MAXIMUM	0400 LST	1300 LST	0.004	0.01	0.05	0.10	11-40	11-32	11-50
JAN	53	41	47	64	26	4.2	7.6	0.4	1.4	#			72	67	22	187	NNE	4.4	5	11	9	8	2	0	3	0			
FEB	56	41	48	70	28	3.7	7.8	0.7	1.7	#			71	63	26	214	NNE	5.3	5	11	8	4	2	0	2	0			
MAR	59	44	52	76	27	3.4	7.3	0.6	1.3	#			69	60	28	216	NNE	5.3	5	11	8	2	1	0	1	0			
APR	67	50	59	81	34	3.4	6.5	0.2	2.1	0			66	61	30	128	SSW	5.3	5	10	7	2	2	0	3	0			
MAY	74	56	65	91	42	2.4	4.3	0.4	2.1	0			62	55	42	268	SSW	4.2	8	8	6	1	2	0	0	0			
JUN	81	62	72	95	51	1.7	5.7	0.0	2.0	0			62	54	50	241	SSW	8.2	8	8	6	1	1	0	0	0			
JUL	86	67	77	101	53	0.5	2.2	0.0	1.3	0			61	54	48	241	SSW	8.2	8	8	6	1	1	0	0	0			
AUG	86	67	77	102	58	1.1	2.9	0.0	1.8	0			61	54	58	214	SSW	8.2	8	8	6	1	1	0	0	0			
SEP	81	63	72	103	49	3.2	6.3	0.1	3.5	0			66	58	40	187	SSW	8.3	8	8	6	1	1	0	0	0			
OCT	71	55	63	87	44	5.4	8.2	1.0	2.1	0			71	64	40	214	NNE	8.3	8	10	10	4	8	0	0	0			
NOV	62	49	56	77	33	5.6	10.3	0.4	3.0	0			71	64	32	214	S	8.3	8	14	10	2	1	0	0	0			
DEC	57	45	51	68	30	5.3	9.1	0.8	3.6	#			74	70	27	214	S	8.3	11	14	10	3	1	0	0	0			
ANN	69	53	61	103	24	39.8	46.8	20.5	3.6	1			67	61	38	241	SSW	4.4	4	103	63	31	13	21	0	0			
EYR	10	10	10	10	10	35	30	30	35	60			10	10	10	50	10	10	27	60	10	10	10	10	10	10			

LESS THAN 0.5 DAYS, 0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EXCEEDED ONLY 0.05 % OF THE TIME WHEN LABELED 99.95% OTHERWISE IT IS THE MEAN

EYR IS EQUIVALENT YEARS OF RECORD (E) THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATIONS

FLYING WEATHER, - PERCENT OF HOURS

HOUR (LST)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING LESS THAN 3000 FEET AND/OR VISIBILITY LESS THAN 1 MI														
01	22	7	11	15	19	24	8	11	17	7	16	14		6
04	19	7	11	19	29	29	19	17	16	11	12	12		6
07	22	9	11	28	44	34	19	24	20	11	12	12		6
10	40	17	15	23	20	22	10	10	10	10	12	12		6
13	23	19	7	16	11	7	10	11	6	10	12	12		6
16	17	6	4	13	15	10	3	6	6	6	12	12		6
19	17	6	6	12	14	10	3	6	6	6	12	12		6
22	28	7	8	11	12	14	5	16	11	16	12	12		6
ALL HRS	23	9	10	17	22	19	12	14	14	12	14	12	14	6
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 2 MI														
01	14	3	3	10	12	16	5	7	11	10	10	8		5
04	9	3	3	10	14	22	12	13	8	10	7	16		5
07	16	6	12	21	34	24	24	22	23	11	10	10		5
10	30	12	9	15	16	12	8	11	10	10	15	22		5
13	17	3	1	5	6	5	4	4	4	3	12	16		5
16	13	3	1	6	7	4	1	8	1	1	13	13		5
19	11	2	2	5	9	6	1	3	4	2	7	17		5
22	21	9	4	5	6	12	3	4	10	7	11	13		5
ALL HRS	16	4	4	4	6	12	7	8	9	7	12	12	9	5
CEILING LESS THAN 300 FEET AND/OR VISIBILITY LESS THAN 1 MI														
01	4	3	4	3	2	4	1	3	3	12	7	6		7
04	3	3	5	3	5	9	3	5	4	10	4	4		7
07	5	3	9	7	10	11	5	12	9	10	6	3		7
10	11	6	5	4	3	2	11	3	3	9	6	3		7
13	6	2	1	2	1	1	0	8	1	3	5	3		7
16	4	2	2	2	1	1	0	8	2	2	5	7		7
19	5	4	2	3	1	1	0	6	1	2	12	3		7
22	8	4	2	1	1	1	0	6	2	2	4	7		7
ALL HRS	6	3	4	3	3	4	1	3	3	7	6	4	4	7
CEILING LESS THAN 200 FEET AND/OR VISIBILITY LESS THAN 1/2 MI														
01	4	#	1	6	1	0	0	8	1	1	3	1		5
04	4	1	1	1	2	2	1	11	0	1	2	2		5
07	4	2	1	3	2	2	0	2	1	1	1	2		5
10	2	0	1	8	0	0	0	8	1	1	1	1		5
13	1	0	0	0	0	0	0	8	1	1	1	1		5
16	8	0	0	8	1	0	0	8	8	1	1	1		5
19	1	0	0	1	8	0	0	8	1	1	1	1		5
22	5	1	#	#	#	0	0	0	0	1	3	1		5
ALL HRS	2	1	1	1	1	1	0	8	8	1	2	1	1	5

NAPLES, ITALY

PREPARED BY: NOOD ASHEVILLE

STATION NAME: NICE, FRANCE
ELEVATION: 341 M

ELEVATION: 341 M

WMO #: 07690

	TEMPERATURE (F)			PRECIPITATION (IN)			RELATIVE HUMIDITY (%)			WIND (MPH)			MEAN NUMBER OF DAYS WITH			TEMPERATURE
	MEAN	EXTREME	MEAN	MEAN	EXTREME	MEAN	MEAN	EXTREME	MEAN	EXTREME	MEAN	EXTREME	WINDY	WINDY	WINDY	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
JAN	55	43	49	10	78	1	68	3	72	24	37	5	4	4	4	2
FEB	56	44	49	12	78	1	68	3	74	24	34	5	4	4	4	3
MAR	58	46	52	12	78	1	68	3	74	24	34	5	4	4	4	4
APR	60	48	56	11	79	1	68	3	74	24	34	5	4	4	4	4
MAY	62	50	58	11	80	1	68	3	74	24	34	5	4	4	4	4
JUN	64	52	60	11	80	1	68	3	74	24	34	5	4	4	4	4
JUL	66	54	62	11	80	1	68	3	74	24	34	5	4	4	4	4
AUG	68	56	64	11	80	1	68	3	74	24	34	5	4	4	4	4
SEP	70	58	66	11	80	1	68	3	74	24	34	5	4	4	4	4
OCT	72	60	68	11	80	1	68	3	74	24	34	5	4	4	4	4
NOV	64	52	60	11	80	1	68	3	74	24	34	5	4	4	4	4
DEC	56	44	52	11	80	1	68	3	74	24	34	5	4	4	4	4
ANN	62	50	60	11	80	1	68	3	74	24	34	5	4	4	4	4
YR	62	50	60	11	80	1	68	3	74	24	34	5	4	4	4	4

IF LESS THAN 0.01 INCH, LIST AS 0.01.
THE VALUE LISTED UNDER PRECIPITATION IS THE MAXIMUM VALUE FOR THE MONTH WHEN
LARGE ENOUGH TO AFFECT THE MEAN.
IF 0.01 INCH OR MORE, LIST AS 0.01 INCH.

NICE, FRANCE

PREPARED BY: NCOO ASHEVILLE

STATION NAME: NORTH FRONT, GIBRALTAR
LOCATION: 36 09N 5 21E

ELEVATION: 11 FEET

WMO #: 06496

	TEMPERATURE (F)			PRECIPITATION (INCHES)						RELATIVE HUMIDITY	VAPOR PRESSURE (INCHES OF MERCURY)				SURFACE WIND (KTS)				MEAN CLOUD AMOUNT (TENTHS)	MEAN NUMBER OF DAYS WITH						
	MEANS			SNOWFALL																TEMPERATURE						
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM	24 HR MAXIMUM	MEAN	MAXIMUM	24 HR MAXIMUM	0830 LST	1430 LST	0200 LST	1500 LST	DIRECTION	SPEED	DIRECTION	SPEED	PRECIPITATION	THUNDERSTORMS	WIND IN FOG	NO	YES	
JAN	60	50	56	74	37	6	20	0	1	3	11	6	31	70	33	34	48	12	12	12	12	10	0	0	0	0
FEB	62	51	56	75	33	4	13	0	0	1	3	4	29	67	34	34	48	11	11	11	11	10	0	0	0	0
MAR	65	54	59	81	38	4	8	2	0	6	2	1	28	66	38	38	50	12	12	12	12	10	0	0	0	0
APR	68	56	62	82	45	2	7	3	0	2	1	8	24	64	42	42	52	11	11	11	11	10	0	0	0	0
MAY	73	60	66	87	47	1	4	0	0	0	1	8	22	62	46	47	56	8	8	8	8	10	0	0	0	0
JUN	78	64	70	91	57	0	5	2	0	0	0	4	23	62	55	51	60	8	8	8	8	10	0	0	0	0
JUL	83	68	75	101	58	1	6	2	0	0	0	2	22	61	62	62	68	1	1	1	1	10	0	0	0	0
AUG	83	69	76	99	57	0	1	0	0	0	0	4	23	60	63	63	69	5	5	5	5	10	0	0	0	0
SEP	79	67	73	92	57	0	4	2	0	0	3	8	26	65	61	60	68	8	8	8	8	10	0	0	0	0
OCT	73	62	67	92	50	2	5	7	0	0	3	1	28	69	54	56	57	8	8	8	8	10	0	0	0	0
NOV	66	57	61	84	46	6	1	18	9	1	4	0	31	72	45	47	53	12	12	12	12	10	0	0	0	0
DEC	62	53	57	75	36	5	5	16	9	1	4	3	30	70	38	40	49	11	11	11	11	10	0	0	0	0
ANN	71	59	65	101	33	3	7	60	5	20	2	11	26	66	48	49	55	8	8	8	8	10	0	0	0	0
EYR	15	15	20	15	15	20	20	20	14	11			15	15	13	13	11	11	11	11	16	14	20	42	11	11

* LESS THAN 0.5 DAYS, 0.5 OR 0.05 INCH, OR 1.5 PERCENT AS APPLICABLE
THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EXCEEDED ONLY 1 OF 5 IN THE TIME WHEN LABELED 99.95% OTHERWISE IT IS THE MEAN
EYR IS EQUIVALENT YEARS OF RECORD 1 IF THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATION

NORTH FRONT, GIBRALTAR

1992

IF LESS THAN 10 YEARS, 10 IS USED IN ALL CASES. IF 10 YEARS OR GREATER, THE VALUE LISTED UNDER PREVIOUS RESIDENCE INDICATES THAT IS A. IF 10 YEARS OR GREATER, 99.95% OTHERWISE 10 IS THE MEAN YEAR IS EQUIVALENT YEARS OF RESIDENCE. THE TOTAL NUMBER OF YEARS FROM 1960 TO 1970.

PALERMO, SICILY

PREPARED BY: NCOO ASHEVILLE

STATION NAME: PAPHOS, CYPRUS
LOCATION: 34 45N 32 24E

ELEVATION: 100 FEET

WMO #: 17600

	TEMPERATURE (F)					PRECIPITATION (INCHES)					RELATIVE HUMIDITY		VAPOR PRESSURE (INCHES OF MERCURY)	WIND		MEAN WIND AROUND THE CIRCLE	MEAN NUMBER OF DAYS WITH		TEMPERATURE	
	MEANS		EXTREME						SNOWFALL					SPEED						
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM	24-HR MAXIMUM	MEAN	MAXIMUM	24-HR MAXIMUM	0001-05	0601-10	1001-15	1601-20	21-24	WINDY	WINDY	
JAN	63	44	53	82	25	4.2			2.5				71	67	29	33	48	12	18	4
FEB	64	44	54	83	29	3.5			2.2				71	67	30	34	48	10	18	4
MAR	67	46	57	90	29	1.8			1.7				71	63	30	35	40	12	18	4
APR	72	48	60	100	30	0.9			1.4				70	64	31	34	36	8	18	4
MAY	78	56	67	102	32	0.6			2.9				70	66	31	34	36	3	18	4
JUN	83	61	72	108	19	0.2			1.5				73	67	31	34	36	1	15	4
JUL	88	66	77	110	44	0.0			8				76	67	31	34	36	1	12	4
AUG	88	67	77	108	43	8			0.3				72	65	31	34	36	1	12	4
SEP	86	66	76	103	39	0.2			0.8				67	62	32	37	37	1	18	4
OCT	81	60	71	99	57	0.7			1.7				62	57	34	38	38	1	18	4
NOV	76	53	65	93	30	2.6			2.3				58	53	39	44	38	1	18	4
DEC	67	48	57	86	30	4.8			4.0				72	67	32	36	48	1	18	4
ANN	76	55	65	110	25	19.4			4.0				71	63	31	34	36	9	12	4
EYR	54	54	54	54	54	58			58				71	63	31	34	36	13	12	4

* LESS THAN 0.5 DAYS, 0.5 OR 0.0 INCH, OR 0.5 PERCENT AS APPLICABLE

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EXTENDED ONLY TO 10% OF THE TIME WHEN LABELED BY 95% OTHERWISE IT IS THE MEAN

EYR IS EQUIVALENT YEARS OF RECORD I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATIONS

FLYING WEATHER, - PERCENT OF HOURS

HOURLY (LST)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING LESS THAN 5000 FEET AND/OR VISIBILITY LESS THAN 5.0 MI														
02	21	24	20	14	11	8	5	3	2	1	1	1	14	15
05	24	21	24	18	16	14	11	8	5	3	2	1	16	16
08	24	22	26	17	12	9	6	4	3	2	1	1	16	16
11	26	23	19	11	6	4	3	2	1	1	1	1	16	16
14	28	27	22	13	8	5	4	3	2	1	1	1	16	16
17	30	24	21	12	8	6	4	3	2	1	1	1	16	16
20	21	19	16	12	8	7	4	3	2	1	1	1	16	16
23	24	18	13	13	8	7	4	3	2	1	1	1	16	16
ALL HRS	27	23	21	14	10	8	5	3	2	1	1	1	16	16
CEILING LESS THAN 3000 FEET AND/OR VISIBILITY LESS THAN 3.0 MI														
02	10	9	8	7	6	7	5	4	2	1	1	1	14	14
05	12	11	14	11	8	8	6	4	2	1	1	1	14	14
08	16	9	13	10	8	8	6	4	2	1	1	1	14	14
11	14	9	12	7	5	5	4	3	2	1	1	1	14	14
14	14	11	10	7	5	2	2	2	1	1	1	1	14	14
17	15	8	8	8	4	3	2	2	1	1	1	1	14	14
20	10	8	8	8	5	4	3	3	2	1	1	1	14	14
23	9	10	9	7	4	4	4	2	2	1	1	1	14	14
ALL HRS	13	9	10	8	6	5	5	3	2	1	1	1	14	14
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 1.0 MI														
02	0	0	0	2	0	1	0	0	0	0	0	0	0	0
05	1	0	1	1	1	1	0	0	0	0	0	0	0	0
08	0	0	1	1	1	0	0	0	0	0	0	0	0	0
11	0	1	1	1	0	0	0	0	0	0	0	0	0	0
14	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	1	0	0	0	0	0	0	0	0	0	0
ALL HRS	0	0	0	1	0	0	0	0	0	0	0	0	0	0
CEILING LESS THAN 300 FEET AND/OR VISIBILITY LESS THAN 0.3 MI														
02	0	0	0	1	0	0	0	0	0	0	0	0	0	0
05	0	0	0	1	0	0	0	0	0	0	0	0	0	0
08	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALL HRS	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PAPHOS, CYPRUS

PREPARED BY: NOOD ASHEVILLE

STATION NAME: RHODES
LOCATION: 36 22N 78 07E

ELEVATION: 1670 FEET

WMO # 16749

	TEMPERATURE (F)					PRECIPITATION (INCHES)					RELATIVE HUMIDITY		WIND (KTS)	SURFACE WIND		MEAN NUMBER OF DAYS WITH				
	MEANS			EXTREME		PRECIPITATION			HUMIDITY		DIRECTION			PRECIPITATION	WINDS		TEMPERATURE			
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM	AVERAGE	MEAN	MAXIMUM	MINIMUM			0800 - 1500	1400 - 1500	MAXIMUM	MINIMUM	AVERAGE	
JAN	60	46	53	72	24	4.8	9.1	0.0	0.0	61	64	30	S	8	42	5.1	11	0	0	0
FEB	60	46	53	72	28	4.8	1.4	0.0	0.0	74	66	31	M	9	45	5.2	11	0	0	0
MAR	62	48	55	84	35	4.3	5.0	0.0	0.0	72	60	30	M	9	42	4.4	11	0	0	0
APR	69	53	61	88	41	1.0	0.9	0.0	0.0	72	58	18	M	9	42	4.4	11	0	0	0
MAY	77	59	68	93	46	1.0	1.0	0.0	0.0	66	52	45	M	8	45	1.4	11	0	0	0
JUN	85	66	76	98	50	0.0	0.1	0.0	0.0	61	49	54	M	10	40	1.8	11	0	0	0
JUL	90	71	81	104	59	0.0	0.0	0.0	0.0	58	45	61	M	11	40	0.0	11	0	0	0
AUG	91	71	81	108	69	0.0	0.0	0.0	0.0	61	47	64	M	10	45	0.0	11	0	0	0
SEP	85	67	76	99	60	1.2	0.4	0.0	0.0	63	47	58	M	9	42	1.8	11	0	0	0
OCT	77	60	69	93	49	3.8	4.8	0.0	0.0	71	54	47	M	5	36	3.6	11	0	0	0
NOV	70	54	62	82	32	6.0	4.3	0.0	0.0	78	62	19	M	5	34	4.4	11	0	0	0
DEC	63	48	56	75	34	7.8	3.5	0.0	0.0	79	63	32	S	5	42	5.1	11	0	0	0
ANN	74	57	66	108	29	18.3	9.1	0.0	0.0	70	56	44	M	8	44	3.7	11	0	0	0
LYR	23	23	23	23	23	7	7	0	0	7	7	7	23	23	23	7	10	0	0	0

LESS THAN 0.5 DAYS, 0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE
THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EXCEEDED ONLY 0.05 % OF THE TIME WHEN TABLED 99.95% OTHERWISE IT IS THE MEAN
LYR IS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATIONS)

FLYING WEATHER, - PERCENT OF HOURS

MO	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
02	14	14	14	14	14	14	14	14	14	14	14	14	14
04	14	14	14	14	14	14	14	14	14	14	14	14	14
06	14	14	14	14	14	14	14	14	14	14	14	14	14
08	14	14	14	14	14	14	14	14	14	14	14	14	14
10	14	14	14	14	14	14	14	14	14	14	14	14	14
12	14	14	14	14	14	14	14	14	14	14	14	14	14
14	14	14	14	14	14	14	14	14	14	14	14	14	14
16	14	14	14	14	14	14	14	14	14	14	14	14	14
18	14	14	14	14	14	14	14	14	14	14	14	14	14
20	14	14	14	14	14	14	14	14	14	14	14	14	14
22	14	14	14	14	14	14	14	14	14	14	14	14	14
24	14	14	14	14	14	14	14	14	14	14	14	14	14
26	14	14	14	14	14	14	14	14	14	14	14	14	14
28	14	14	14	14	14	14	14	14	14	14	14	14	14
30	14	14	14	14	14	14	14	14	14	14	14	14	14
ALL HRS	14	14	14	14	14	14	14	14	14	14	14	14	14

RHODES

PREPARED BY: NCOO ASHEVILLE

STATION NAME: ROME, ITALY
LOCATION: 41° 48'N 12° 36'E

ELEVATION: 4,915'

WMO # 15239

	TEMPERATURE (°F)					PRECIPITATION (INCHES)					RELATIVE HUMIDITY					SURFACE WIND (KTS)					MEAN CLOUD AMOUNT (%)	MEAN NUMBER OF DAYS WITH				
	MEANS			EXTREME		MEAN			MAXIMUM		MEAN			MAXIMUM		DIRECTION	SPEED	MAX. GUST		PRECIPITATION		THUNDERSTORMS	VISIBILITY		TEMPERATURE	TEMPERATURE
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	AVERAGE			LESS THAN 1000	LESS THAN 500				TEMPERATURE	TEMPERATURE		
JAN	52	40	46	66	24	28	66	0	0	0	85	88	21	21	NE	18	12	0	0	0	0	0	0	0	0	
FEB	54	42	48	68	22	28	68	0	0	0	86	84	21	21	NE	18	12	0	0	0	0	0	0	0	0	
MAR	58	45	52	74	28	32	74	0	0	0	83	81	24	24	NE	12	15	0	0	0	0	0	0	0	0	
APR	66	50	58	78	35	38	78	0	0	0	81	74	38	38	NE	7	35	0	0	0	0	0	0	0	0	
MAY	74	56	65	88	38	42	88	0	0	0	74	64	44	44	NE	6	33	0	0	0	0	0	0	0	0	
JUN	82	68	75	94	42	48	94	0	0	0	71	54	48	48	NE	6	33	0	0	0	0	0	0	0	0	
JUL	87	77	82	98	44	52	98	0	0	0	71	46	48	48	NE	6	33	0	0	0	0	0	0	0	0	
AUG	86	67	77	104	48	52	104	0	0	0	71	46	48	48	NE	6	33	0	0	0	0	0	0	0	0	
SEP	79	62	71	92	45	48	92	0	0	0	81	64	47	47	NE	6	33	0	0	0	0	0	0	0	0	
OCT	71	55	63	84	38	42	84	0	0	0	81	64	47	47	NE	6	33	0	0	0	0	0	0	0	0	
NOV	61	48	55	74	30	38	74	0	0	0	81	64	47	47	NE	6	33	0	0	0	0	0	0	0	0	
DEC	55	44	50	62	27	32	62	0	0	0	81	64	47	47	NE	6	33	0	0	0	0	0	0	0	0	
ANN	69	53	61	108	21	30	108	0	0	0	81	64	47	47	NE	6	33	0	0	0	0	0	0	0	0	
EYR	16	16	16	20	20	20	20	10	6	6	10	12	33	33	30	11	11	30	16	10	1	6	10	10	10	

LESS THAN 0.4 DAYS, 0.4 OR MORE IN HOURS, OR 0.5 PERCENT AT ABOVE 4900'

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE WAS RECORDED IN THE MONTH WHEN LABELED OR 94% OTHERWISE IT IS THE MEAN

EYR IS EQUIVALENT YEARS OF RECORD USED, THE ACTUAL NUMBER OF YEARS IS LISTED IN THE CALCULATION

FLYING WEATHER, - PERCENT OF HOURS

HOURLY LIST	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 1 MI														
01	31	45	29	21	21	17	12	14	14	17	44	25	13	13
04	41	48	31	26	26	21	16	16	24	21	46	28	13	13
07	19	56	54	51	48	37	31	26	47	46	50	43	13	13
10	51	59	49	37	37	31	24	17	31	55	52	36	13	13
13	41	47	36	36	36	28	22	17	28	37	31	26	13	13
16	14	36	21	14	18	15	8	4	8	27	26	21	13	13
19	14	44	19	14	19	14	8	4	14	27	26	21	13	13
22	40	31	26	16	16	14	8	4	14	27	26	21	13	13
ALL HRS	41	46	36	31	23	17	12	10	14	24	38	41	20	13
CEILING LESS THAN 1300 FEET AND/OR VISIBILITY LESS THAN 2 1/2 MI														
01	20	33	16	16	10	11	4	10	19	13	42	14	13	13
04	21	26	19	18	12	10	8	6	13	16	44	16	13	13
07	21	52	23	14	13	12	6	4	13	17	31	17	13	13
10	26	29	20	16	17	12	6	4	13	17	31	17	13	13
13	22	23	18	17	11	11	8	3	13	16	19	23	13	13
16	14	36	21	14	18	15	8	4	14	27	26	21	13	13
19	14	44	19	14	19	14	8	4	14	27	26	21	13	13
22	40	31	26	16	16	14	8	4	14	27	26	21	13	13
ALL HRS	21	26	20	19	13	10	6	4	14	27	26	21	13	13
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 2 1/2 MI														
01	2	4	4	2	6	3	1	2	1	2	4	3	13	13
04	3	1	6	9	4	5	3	1	3	4	6	4	13	13
07	4	12	9	13	7	2	3	1	4	7	6	4	13	13
10	12	4	5	2	1	2	8	1	1	7	8	5	13	13
13	2	4	2	2	1	1	8	1	1	3	3	2	13	13
16	1	4	3	2	1	1	0	0	1	2	1	1	13	13
19	1	4	3	2	1	1	0	0	1	2	1	1	13	13
22	4	6	4	4	2	2	0	0	1	1	3	1	13	13
ALL HRS	4	6	4	4	2	2	0	0	1	1	4	3	13	13
CEILING LESS THAN 300 FEET AND/OR VISIBILITY LESS THAN 1/4 MI														
01	1	3	1	2	2	1	0	0	1	1	3	1	13	13
04	2	4	4	6	2	1	0	0	1	1	4	3	13	13
07	2	7	2	5	1	0	0	0	1	1	4	3	13	13
10	3	5	2	1	0	0	0	0	1	1	3	2	13	13
13	0	1	0	0	0	0	0	0	1	1	1	1	13	13
16	1	2	0	0	0	0	0	0	1	1	1	1	13	13
19	1	1	0	0	0	0	0	0	1	1	1	1	13	13
22	0	1	1	0	1	0	0	0	1	1	1	1	13	13
ALL HRS	1	3	1	2	1	0	0	0	1	1	1	1	13	13

ROME, ITALY

PREPARED BY: NOCO ASHEVILLE

STATION NAME: SASSARI, SARDINIA
LOCATION: 40 43N R 33E

ELEVATION: 625 FEET

WMO #: 14200

	TEMPERATURE (F)					PRECIPITATION (INCHES)					RELATIVE HUMIDITY		WIND (MPS)	SURFACE WIND (MPS)		MEAN CLOUD AMOUNT (%)	MEAN NUMBER OF DAYS WITH				
	MEANS			EXTREME		MEAN	SNOWFALL			24 HR MAXIMUM	HUMIDITY			DIRECTION	PRECIPITATION			THUNDERSTORMS	TEMPERATURE		
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM		MAXIMUM	MINIMUM	0530 LST		1230 LST	BAROM. PRESSURE (MERCURY)								SEA LEVEL	
JAN	58	44	49	64	32	2.4				0	85	75	43								
FEB	58	43	48	70	24	2.0				0	82	71	43								
MAR	60	46	53	81	17	2.2				0	80	69	43								
APR	64	50	58	86	10	2.5				0	78	67	41								
MAY	70	54	63	91	43	1.1				0	77	60	41								
JUN	78	62	71	94	58	1.0				0	72	50	41								
JUL	83	66	74	100	48	0.4				0	64	41	41								
AUG	84	67	76	108	44	0.4				0	78	48	54								
SEP	78	64	71	99	44	1.2				0	74	54	52								
OCT	72	58	65	88	41	1.3				0	80	60	64								
NOV	64	51	57	76	43	1.1				0	78	64	47								
DEC	60	46	53	72	36	2.8				0	82	71	43								
ANN	68	54	61	108	24	2.3				0	77	67	47								
LYR	70	56	63	100	10	1.2				0	77	67	47								

* LESS THAN 0.4 DAYS, 0.4 OR MORE INCHES, OR 1.0 INCH OR MORE ARE
THE VALUE LISTED UNDER PRECIPITATION INDICATES THAT VALUE IS EXCEEDED IN YEARS OF THE TIME WHEN
LABELLED BY HAZ OTHERWISE IT IS THE MEAN
LYR IN EQUIVALENT YEARS OF RECORD (SEE THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATION)

SASSARI, SARDINIA

PREPARED BY: NCO: ASHEVILLE

STATION NAME: SIGONELLA (CANTANIA), ITALY
LOCATION: 37° 34N 14° 45E

ELEVATION: 4,400

WMO #: 14244

	TEMPERATURE (F)				PRECIPITATION (INCHES)				RELATIVE HUMIDITY				WIND				SUN				CLOUDS				MOON				OTHER			
	MEANS		EXTREME		MEAN		MAXIMUM		MEAN		MAXIMUM		DIRECTION		SPEED		HOURS		PERCENT		HOURS		PERCENT		HOURS		PERCENT		HOURS		PERCENT	
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MEAN	MAXIMUM	MINIMUM	24 HR MAXIMUM	MEAN	MAXIMUM	MINIMUM	24 HR MAXIMUM	24 HR DIRECTION	24 HR SPEED	24 HR DIRECTION	24 HR SPEED	24 HR HOURS	24 HR PERCENT	24 HR HOURS	24 HR PERCENT	24 HR HOURS	24 HR PERCENT	24 HR HOURS	24 HR PERCENT	24 HR HOURS	24 HR PERCENT	24 HR HOURS	24 HR PERCENT	24 HR HOURS	24 HR PERCENT	24 HR HOURS	24 HR PERCENT
JAN	60	41	50	73	23	28	71	0.5	3.4	8	8	8	91	60	30	45	60	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
FEB	61	40	51	79	23	28	66	0.4	4.4	0	0	0	95	65	34	44	70	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
MAR	64	42	53	84	26	19	53	0.5	1.6	8	8	8	91	61	31	41	140	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
APR	69	45	58	86	32	19	60	0.4	3.5	0	0	0	89	56	34	48	144	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
MAY	78	52	65	99	37	10	53	0	2.2	0	0	0	88	51	42	44	200	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
JUN	86	59	72	106	44	0	5	1.5	0.0	1.5	0	0	82	45	50	59	300	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
JUL	92	64	78	116	54	0	2	1.4	0.0	1.3	0	0	77	40	54	61	150	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
AUG	92	65	79	109	51	0	3	1.4	0.0	1.3	0	0	76	41	56	62	150	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
SEP	86	62	74	104	49	1	10	0	1.5	0	0	0	82	48	58	67	150	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
OCT	77	55	66	95	37	5	16	0	0.5	1.8	0	0	88	58	45	44	144	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
NOV	69	47	58	88	30	18	6	0	0	2.2	0	0	90	62	35	49	140	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
DEC	62	43	53	75	28	3	13	0	0	8	8	8	91	70	30	40	140	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
ANN	75	51	63	116	22	22	29	0	1.0	1.8	0	0	86	56	54	62	150	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
EYR	20	20	20	20	20	20	10	10	20	20	20	20	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91

LESS THAN 0.5 DAYS, 0.4 OR 0.5 INCH, OR 0.4 PERCENT AS APPLICABLE

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EXCEEDED ONLY 0.05 % OF THE TIME WHEN LABELED 99.95% OTHERWISE IT IS THE MEAN

EYR IS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATIONS)

FLYING WEATHER, PERCENT & HOURS

HOOR	EST	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING LESS THAN 100 FEET AND/OR VISIBILITY LESS THAN 1/2 MI															
01	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15
04	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15
07	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15
10	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15
13	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15
16	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15
19	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15
22	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15
ALL HRS	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 1 MI															
01	13	9	14	12	8	3	1	1	2	1	12	7	12	7	12
04	13	10	14	12	8	3	1	1	2	1	12	7	12	7	12
07	14	11	15	13	9	3	0	2	5	14	8	12	8	12	12
10	9	9	12	8	4	2	0	0	7	8	8	12	8	12	12
13	6	7	12	8	4	2	0	0	7	8	8	12	8	12	12
16	8	6	12	8	4	2	0	0	7	8	8	12	8	12	12
19	9	8	12	8	4	2	0	0	7	8	8	12	8	12	12
22	9	8	12	8	4	2	0	0	7	8	8	12	8	12	12
ALL HRS	10	9	13	10	5	2	0	1	9	9	13	8	12	8	12
CEILING LESS THAN 1500 FEET AND/OR VISIBILITY LESS THAN 3 MI															
01	7	5	8	6	5	2	1	1	1	4	4	6	4	10	10
04	6	5	10	9	7	3	1	1	1	5	6	6	4	10	10
07	6	5	8	6	5	2	0	1	2	7	6	10	4	10	10
10	5	4	5	5	1	1	0	0	0	3	1	3	4	10	10
13	3	3	4	2	1	0	0	0	0	3	1	3	4	10	10
16	3	3	4	2	1	0	0	0	0	3	1	3	4	10	10
19	3	3	4	2	1	0	0	0	0	3	1	3	4	10	10
22	3	3	4	2	1	0	0	0	0	3	1	3	4	10	10
ALL HRS	5	4	6	6	3	1	0	0	1	9	5	9	5	10	10
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 1 MI															
01	4	1	4	3	2	1	0	0	2	3	2	3	2	10	10
04	4	3	6	3	5	0	0	0	1	4	3	4	3	10	10
07	4	4	6	3	2	0	0	0	1	3	4	6	3	10	10
10	3	2	3	1	0	0	0	0	2	1	2	1	1	10	10
13	2	1	2	0	0	0	0	0	0	2	1	1	1	10	10
16	1	1	1	0	0	0	0	0	0	1	1	1	1	10	10
19	2	1	3	0	0	0	0	0	0	1	1	1	1	10	10
22	2	3	2	2	1	0	0	0	0	1	2	1	1	10	10
ALL HRS	3	2	3	3	2	0	0	0	0	2	3	3	2	10	10
CEILING LESS THAN 200 FEET AND/OR VISIBILITY LESS THAN 1/2 MI															
01	1	0	1	0	1	1	0	0	0	0	0	1	0	10	10
04	1	1	1	1	1	0	0	0	0	1	1	1	1	10	10
07	1	1	1	1	1	0	0	0	0	1	1	1	1	10	10
10	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
13	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
16	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
19	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
22	1	0	0	0	0	0	0	0	0	0	1	1	0	10	10
ALL HRS	1	0	0	0	0	0	0	0	0	0	0	0	0	10	10

SIGONELLA (CANTANIA), ITALY

PMG #: 1674b

[illegible][illegible]

Table 1. *Salmonella* serotypes and their associated diseases

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Lichtenthaler and Whistler (1973).

	M0	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48	M49	M50	M51	M52	M53	M54	M55	M56	M57	M58	M59	M60	M61	M62	M63	M64	M65	M66	M67	M68	M69	M70	M71	M72	M73	M74	M75	M76	M77	M78	M79	M80	M81	M82	M83	M84	M85	M86	M87	M88	M89	M90	M91	M92	M93	M94	M95	M96	M97	M98	M99	M100	M101	M102	M103	M104	M105	M106	M107	M108	M109	M110	M111	M112	M113	M114	M115	M116	M117	M118	M119	M120	M121	M122	M123	M124	M125	M126	M127	M128	M129	M130	M131	M132	M133	M134	M135	M136	M137	M138	M139	M140	M141	M142	M143	M144	M145	M146	M147	M148	M149	M150	M151	M152	M153	M154	M155	M156	M157	M158	M159	M160	M161	M162	M163	M164	M165	M166	M167	M168	M169	M170	M171	M172	M173	M174	M175	M176	M177	M178	M179	M180	M181	M182	M183	M184	M185	M186	M187	M188	M189	M190	M191	M192	M193	M194	M195	M196	M197	M198	M199	M200	M201	M202	M203	M204	M205	M206	M207	M208	M209	M210	M211	M212	M213	M214	M215	M216	M217	M218	M219	M220	M221	M222	M223	M224	M225	M226	M227	M228	M229	M230	M231	M232	M233	M234	M235	M236	M237	M238	M239	M240	M241	M242	M243	M244	M245	M246	M247	M248	M249	M250	M251	M252	M253	M254	M255	M256	M257	M258	M259	M260	M261	M262	M263	M264	M265	M266	M267	M268	M269	M270	M271	M272	M273	M274	M275	M276	M277	M278	M279	M280	M281	M282	M283	M284	M285	M286	M287	M288	M289	M290	M291	M292	M293	M294	M295	M296	M297	M298	M299	M300	M301	M302	M303	M304	M305	M306	M307	M308	M309	M310	M311	M312	M313	M314	M315	M316	M317	M318	M319	M320	M321	M322	M323	M324	M325	M326	M327	M328	M329	M330	M331	M332	M333	M334	M335	M336	M337	M338	M339	M340	M341	M342	M343	M344	M345	M346	M347	M348	M349	M350	M351	M352	M353	M354	M355	M356	M357	M358	M359	M360	M361	M362	M363	M364	M365	M366	M367	M368	M369	M370	M371	M372	M373	M374	M375	M376	M377	M378	M379	M380	M381	M382	M383	M384	M385	M386	M387	M388	M389	M390	M391	M392	M393	M394	M395	M396	M397	M398	M399	M400	M401	M402	M403	M404	M405	M406	M407	M408	M409	M410	M411	M412	M413	M414	M415	M416	M417	M418	M419	M420	M421	M422	M423	M424	M425	M426	M427	M428	M429	M430	M431	M432	M433	M434	M435	M436	M437	M438	M439	M440	M441	M442	M443	M444	M445	M446	M447	M448	M449	M450	M451	M452	M453	M454	M455	M456	M457	M458	M459	M460	M461	M462	M463	M464	M465	M466	M467	M468	M469	M470	M471	M472	M473	M474	M475	M476	M477	M478	M479	M480	M481	M482	M483	M484	M485	M486	M487	M488	M489	M490	M491	M492	M493	M494	M495	M496	M497	M498	M499	M500	M501	M502	M503	M504	M505	M506	M507	M508	M509	M510	M511	M512	M513	M514	M515	M516	M517	M518	M519	M520	M521	M522	M523	M524	M525	M526	M527	M528	M529	M530	M531	M532	M533	M534	M535	M536	M537	M538	M539	M540	M541	M542	M543	M544	M545	M546	M547	M548	M549	M550	M551	M552	M553	M554	M555	M556	M557	M558	M559	M560	M561	M562	M563	M564	M565	M566	M567	M568	M569	M570	M571	M572	M573	M574	M575	M576	M577	M578	M579	M580	M581	M582	M583	M584	M585	M586	M587	M588	M589	M590	M591	M592	M593	M594	M595	M596	M597	M598	M599	M600	M601	M602	M603	M604	M605	M606	M607	M608	M609	M610	M611	M612	M613	M614	M615	M616	M617	M618	M619	M620	M621	M622	M623	M624	M625	M626	M627	M628	M629	M630	M631	M632	M633	M634	M635	M636	M637	M638	M639	M640	M641	M642	M643	M644	M645	M646	M647	M648	M649	M650	M651	M652	M653	M654	M655	M656	M657	M658	M659	M660	M661	M662	M663	M664	M665	M666	M667	M668	M669	M670	M671	M672	M673	M674	M675	M676	M677	M678	M679	M680	M681	M682	M683	M684	M685	M686	M687	M688	M689	M690	M691	M692	M693	M694	M695	M696	M697	M698	M699	M700	M701	M702	M703	M704	M705	M706	M707	M708	M709	M710	M711	M712	M713	M714	M715	M716	M717	M718	M719	M720	M721	M722	M723	M724	M725	M726	M727	M728	M729	M730	M731	M732	M733	M734	M735	M736	M737	M738	M739	M740	M741	M742	M743	M744	M745	M746	M747	M748	M749	M750	M751	M752	M753	M754	M755	M756	M757	M758	M759	M760	M761	M762	M763	M764	M765	M766	M767	M768	M769	M770	M771	M772	M773	M774	M775	M776	M777	M778	M779	M780	M781	M782	M783	M784	M785	M786	M787	M788	M789	M790	M791	M792	M793	M794	M795	M796	M797	M798	M799	M800	M801	M802	M803	M804	M805	M806	M807	M808	M809	M810	M811	M812	M813	M814	M815	M816	M817	M818	M819	M820	M821	M822	M823	M824	M825	M826	M827	M828	M829	M830	M831	M832	M833	M834	M835	M836	M837	M838	M839	M840	M841	M842	M843	M844	M845	M846	M847	M848	M849	M850	M851	M852	M853	M854	M855	M856	M857	M858	M859	M860	M861	M862	M863	M864	M865	M866	M867	M868	M869	M870	M871	M872	M873	M874	M875	M876	M877	M878	M879	M880	M881	M882	M883	M884	M885	M886	M887	M888	M889	M890	M891	M892	M893	M894	M895	M896	M897	M898	M899	M900	M901	M902	M903	M904	M905	M906	M907	M908	M909	M910	M911	M912	M913	M914	M915	M916	M917	M918	M919	M920	M921	M922	M923	M924	M925	M926	M927	M928	M929	M930	M931	M932	M933	M934	M935	M936	M937	M938	M939	M940	M941	M942	M943	M944	M945	M946	M947	M948	M949	M950	M951	M952	M953	M954	M955	M956	M957	M958	M959	M960	M961	M962	M963	M964	M965	M966	M967	M968	M969	M970	M971	M972	M973	M974	M975	M976	M977	M978	M979	M980	M981	M982	M983	M984	M985	M986	M987	M988	M989	M990	M991	M992	M993	M994	M995	M996	M997	M998	M999
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337

PREPARED BY: NOCD ASHEVILLE

STATION NAME: TARANTO, ITALY
LOCATION: 40 28N 17 47E

ELEVATION: 49 FEET

WMO #: 16330

	TEMPERATURE (F)						PRECIPITATION (INCHES)						RELATIVE HUMIDITY		WIND DIRECTION	SURFACE WIND (KNOTS)				MEAN SEASWAVE HEIGHT (FEET)	MEAN NUMBER OF DAYS WITH PRECIPITATION				
	MEANS			EXTREME			MEAN			SNOWFALL			HUMIDITY			WIND					THUNDERSTORMS		FROST		
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MEAN	MAXIMUM	MINIMUM	24 HR MAXIMUM	MEAN	MAXIMUM	24 HR MAXIMUM	0700 LT	1300 LT		DIR	VELOCITY	DIR	VELOCITY		NO. MONTHS	PERCENT	PERCENT	PERCENT	
JAN	53	44	47	64	29	2.4	5.5	1.4	1.4				84	70	14	7	8	7	8						
FEB	55	44	49	66	27	1.7	6.3	1.4	2.4				81	67	24	7	8	7	8						
MAR	58	47	53	71	28	1.5	4.4	1.4	2.5				87	58	27	7	8	7	8						
APR	64	52	58	81	34	1.8	2.2	0.4	1.3				82	64	32	7	8	7	8						
MAY	72	59	66	89	43	1.6	1.0	0.4	1.0				78	50	38	7	8	7	8						
JUN	80	68	73	94	53	1.8	2.0	0.4	1.4				70	45	48	7	8	7	8						
JUL	86	74	79	102	60	1.1	2.3	0.0	0.6				64	44	50	7	8	7	8						
AUG	86	74	79	102	60	1.1	2.3	0.0	0.6				71	44	53	7	8	7	8						
SEP	79	66	72	91	54	1.5	2.8	1.1	2.5				78	50	45	7	8	7	8						
OCT	71	60	65	93	46	1.5	5.2	0.5	1.1				84	61	43	7	8	7	8						
NOV	64	53	57	74	38	2.8	4.7	0.6	3.2				85	67	34	7	8	7	8						
DEC	57	48	51	69	28	2.6	3.9	0.5	1.5				85	69	26	7	8	7	8						
ANN	69	55	64	102	25	21	22	6	14	0	3	2	74	57	29										
EXP	76	76	76	76	76	76	76	76	76				76	76	30										

1. LESS THAN 0.5 DAYS, 0.5 OR 1.0 INCH, OR 1.0 PERCENT AS APPLICABLE

THE VALUE LISTED UNDER PRECIPITATION TOTAL INDICATE THAT VALUE IS EXCEEDED ONLY 1.0% OF THE TIME WHEN LABELED BY PERCENT OTHERWISE IT IS THE MEAN

EXP IS EQUIVALENT YEARS OF RECORD 1.0% THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATION

FLYING WEATHER, PERCENT OF HOUR

HOOR	LT	AV	PER	WAB	AVW	WAP	WUN	WUS	WES	WET	WUN	WUN	WUN	WUN
FLYING LESS THAN 300 FEET AND OR VISIBILITY LESS THAN 1.0														
01														
04														
07														
10														
13														
16														
19														
22														
ALL HRS														
FLYING LESS THAN 300 FEET AND OR VISIBILITY LESS THAN 1.0														
01														
04														
07														
10														
13														
16														
19														
22														
ALL HRS														

TARANTO, ITALY

	TEMPERATURE (F)					PRECIPITATION (INCHES)					RELATIVE HUMIDITY (%)					SURFACE WIND (KNOTS)					MEAN NUMBER OF DAYS WITH				
	MEANS	EXTREME	MEANS	EXTREME	MEANS	MEANS	EXTREME	MEANS	EXTREME	MEANS	MEANS	EXTREME	MEANS	EXTREME	MEANS	MEANS	EXTREME	MEANS	EXTREME	MEANS	MEANS	PRECIPITATION	THUNDERSTORMS	TEMPERATURE	PRECIPITATION
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM
JAN	64	50	56	76	36	4.4	0.0	4.4	0.0	72	47	72	47	72	47	72	47	72	47	72	47	72	47	72	47
FEB	64	50	56	76	36	4.4	0.0	4.4	0.0	72	47	72	47	72	47	72	47	72	47	72	47	72	47	72	47
MAR	64	50	56	76	36	4.4	0.0	4.4	0.0	72	47	72	47	72	47	72	47	72	47	72	47	72	47	72	47
APR	70	55	64	82	43	3.0	0.0	3.0	0.0	74	48	74	48	74	48	74	48	74	48	74	48	74	48	74	48
MAY	74	60	68	88	48	2.0	0.0	2.0	0.0	76	50	76	50	76	50	76	50	76	50	76	50	76	50	76	50
JUN	78	64	72	92	52	1.0	0.0	1.0	0.0	78	52	78	52	78	52	78	52	78	52	78	52	78	52	78	52
JUL	82	68	76	96	56	0.8	0.0	0.8	0.0	80	54	80	54	80	54	80	54	80	54	80	54	80	54	80	54
AUG	82	68	76	96	56	0.8	0.0	0.8	0.0	80	54	80	54	80	54	80	54	80	54	80	54	80	54	80	54
SEP	80	66	74	94	54	0.8	0.0	0.8	0.0	78	52	78	52	78	52	78	52	78	52	78	52	78	52	78	52
OCT	78	64	72	92	52	0.8	0.0	0.8	0.0	76	50	76	50	76	50	76	50	76	50	76	50	76	50	76	50
NOV	74	60	68	88	48	0.8	0.0	0.8	0.0	74	48	74	48	74	48	74	48	74	48	74	48	74	48	74	48
DEC	70	55	64	82	43	0.8	0.0	0.8	0.0	72	47	72	47	72	47	72	47	72	47	72	47	72	47	72	47
ANN	74	60	70	90	50	1.6	0.0	1.6	0.0	76	50	76	50	76	50	76	50	76	50	76	50	76	50	76	50
ALL	74	60	70	90	50	1.6	0.0	1.6	0.0	76	50	76	50	76	50	76	50	76	50	76	50	76	50	76	50

LESS THAN 0.01 INCHES
THE 24 HOURS TOTAL PRECIPITATION FOR EACH MONTH IS SHOWN IN THE FIRST COLUMN
PRECIPITATION FOR EACH MONTH IS SHOWN IN THE FIRST COLUMN
PRECIPITATION FOR EACH MONTH IS SHOWN IN THE FIRST COLUMN

FLYING WEATHER - PERCENT OF HOUR													
CEILING	VIS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
02	05	1	1	1	1	1	1	1	1	1	1	1	1
08	10	1	1	1	1	1	1	1	1	1	1	1	1
14	17	1	1	1	1	1	1	1	1	1	1	1	1
20	23	1	1	1	1	1	1	1	1	1	1	1	1
ALL	HR	1	1	1	1	1	1	1	1	1	1	1	1
02	05	1	1	1	1	1	1	1	1	1	1	1	1
08	10	1	1	1	1	1	1	1	1	1	1	1	1
14	17	1	1	1	1	1	1	1	1	1	1	1	1
20	23	1	1	1	1	1	1	1	1	1	1	1	1
ALL	HR	1	1	1	1	1	1	1	1	1	1	1	1
02	05	1	1	1	1	1	1	1	1	1	1	1	1
08	10	1	1	1	1	1	1	1	1	1	1	1	1
14	17	1	1	1	1	1	1	1	1	1	1	1	1
20	23	1	1	1	1	1	1	1	1	1	1	1	1
ALL	HR	1	1	1	1	1	1	1	1	1	1	1	1
02	05	1	1	1	1	1	1	1	1	1	1	1	1
08	10	1	1	1	1	1	1	1	1	1	1	1	1
14	17	1	1	1	1	1	1	1	1	1	1	1	1
20	23	1	1	1	1	1	1	1	1	1	1	1	1
ALL	HR	1	1	1	1	1	1	1	1	1	1	1	1

TEL-AVIV, ISRAEL

JMO #: 62011

[illegible]

EYR IS EQUIVALENT YEARS OF RECORD IF THE ACTUAL NUMBER OF YEARS UTILIZED IN THE ALLOCATION.

[illegible]

TRIPOLI, LIBYA

60715

[illegible]
$$E_{\text{M}} = E_{\text{O}} \cdot \text{EQUALENT} \cdot \text{YEAR} \cdot \text{OF} \cdot \text{RECORDS} \cdot \text{IN} \cdot \text{THE} \cdot \text{ACTUAL} \cdot \text{NUMBER} \cdot \text{OF} \cdot \text{YEARS} \cdot \text{COLLECTED} \cdot \text{IN} \cdot \text{THE} \cdot \text{CALCULATION}$$
[illegible]

TUNIS, TUNISIA

PREPARED BY: NOCD ASHEVILLE

STATION NAME: VENICE, ITALY
LOCATION: 45 26N 12 23E

ELEVATION: 13 FEET

WMO #: 16100

	TEMPERATURE (F)					PRECIPITATION (INCHES)					RELATIVE HUMIDITY					VAPOR PRESSURE (INCHES OF MERCURY)					SURFACE WIND (KTS)					MEAN NUMBER OF DAYS WITH																	
	MEANS			EXTREME		MEAN	MAXIMUM	MINIMUM	24-HR MAXIMUM	SNOWFALL	MEAN	MAXIMUM	MINIMUM	24-HR MAXIMUM	0700 LST	1300 LST	0900 LST	1400 LST	DIR	SPEED	MAX GUST	MEAN CLOUD AMOUNT (TENTHS)	PRECIPITATION	THUNDERSTORMS	VISIBILITY	TEMPERATURE																	
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM																					SNOWFALL	MEAN	MAXIMUM	MINIMUM	24-HR MAXIMUM	0700 LST	1300 LST	0900 LST	1400 LST	DIR	SPEED	MAX GUST	MEAN CLOUD AMOUNT (TENTHS)	PRECIPITATION	THUNDERSTORMS	VISIBILITY	MEAN	MAX
JAN	42	33	38	57	18	1.5			1.3					86	76	14	16	32	NNE	4	40	6		0	9	3																	
FEB	46	35	41	64	15	1.9			2.1					80	76	15	17	30	NE	5	50	6		0	4	0																	
MAR	53	41	47	72	24	2.4			2.1					86	86	19	21	38	NE	6	44	7		0	4	0																	
APR	62	49	56	81	35	3.1			1.9					86	67	25	26	46	E	6	17	2		0	3	0																	
MAY	70	56	63	91	41	2.6			1.5					85	69	33	35	54	S	6	24	6		0	4	0																	
JUN	76	63	70	91	47	2.7			1.5					83	65	40	41	61	SSE	5	28	5		0	3	0																	
JUL	81	64	74	94	53	2.1			1.3					82	64	45	46	64	SSE	5	20	4		0	3	0																	
AUG	80	65	73	93	55	2.1			1.9					84	63	43	45	64	NE	5	33	4		0	3	0																	
SEP	75	61	68	87	49	2.3			1.7					87	64	37	41	63	NE	5	35	5		0	3	0																	
OCT	65	53	59	80	38	3.1			2.0					88	68	28	30	51	NNE	5	30	6		0	3	0																	
NOV	53	44	49	69	28	3.7			3.2					88	75	21	23	42	NE	5	30	6		0	4	0																	
DEC	46	37	42	59	24	2.4			1.5					88	79	15	17	38	NNE	4	33	6		0	3	0																	
ANN	62	50	56	84	15	30.4			3.9					85	70	28	32	48	NE	5	50	6		45	39	2																	
EYR	16	16	16	16	16	16			10					70	70	74	74	6	19	19	42	16		0	5	0																	

LESS THAN 0.5 DAYS, 0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE

THE VALUE LISTED UNDER PRESSURE ALTITUDE INDICATES THAT VALUE IS EXCEEDED ONLY 0.5% OF THE TIME WHEN

LABELED 99.95% OTHERWISE IT IS THE MEAN

EYR IS EQUIVALENT YEARS OF RECORD - I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE CALCULATIONS

FLYING WEATHER, PERCENT OF HOURS

HOURLY (LST)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING LESS THAN 5000 FEET AND/OR VISIBILITY LESS THAN 6 MI														
01	75	70	54	49	35	32	22	28	49	62	77	73	62	72
04	77	74	61	56	48	53	19	14	47	68	70	73	60	71
07	73	78	74	70	58	54	44	42	47	64	70	73	64	72
10	85	82	72	56	41	41	39	42	47	64	70	73	64	72
13	77	76	59	43	31	28	27	32	48	64	70	73	64	72
16	74	67	61	45	25	24	23	24	47	64	70	73	64	72
19	76	71	58	42	26	24	24	25	44	62	68	74	68	73
22	76	68	50	39	27	23	21	23	47	58	71	74	67	73
ALL HRS	77	73	60	49	37	34	30	34	60	60	64	74	64	73
CEILING LESS THAN 3300 FEET AND/OR VISIBILITY LESS THAN 2 1/2 MI														
01	54	52	32	26	15	16	6	10	20	37	49	55	37	42
04	54	53	37	35	23	21	10	13	28	47	49	54	36	41
07	51	55	49	41	27	19	14	21	34	45	49	51	38	42
10	60	53	38	26	16	12	10	12	20	35	44	55	32	42
13	52	50	29	20	10	11	6	9	14	28	47	57	27	43
16	51	42	24	19	11	7	5	9	12	28	44	50	25	42
19	54	48	28	19	12	11	5	7	16	25	42	56	27	43
22	54	46	28	21	14	12	8	11	13	32	44	52	29	43
ALL HRS	54	50	33	26	16	14	6	11	27	34	46	53	40	47
CEILING LESS THAN 1000 FEET AND/OR VISIBILITY LESS THAN 2 1/2 MI														
01	43	38	18	9	2	2	1	1	11	24	37	43	19	22
04	40	38	22	16	8	7	3	4	18	30	44	42	23	27
07	42	43	40	30	17	12	9	14	28	36	34	40	29	32
10	52	49	30	17	8	7	4	4	14	28	38	36	24	32
13	45	41	19	8	4	3	1	2	8	20	30	34	19	27
16	43	34	16	4	2	2	0	1	7	20	34	41	18	22
19	45	35	17	6	2	3	1	1	7	19	28	42	17	24
22	45	32	16	4	2	1	1	2	7	28	32	42	18	23
ALL HRS	44	39	22	12	6	5	2	4	13	24	31	41	27	31
CEILING LESS THAN 300 FEET AND/OR VISIBILITY LESS THAN 1 1/4 MI														
01	25	24	10	3	1	0	0	0	4	16	27	36	10	12
04	25	23	13	8	4	2	0	1	4	18	26	36	12	13
07	25	28	20	15	8	11	1	3	16	23	22	26	11	12
10	34	30	15	4	1	1	0	1	8	18	25	31	14	14
13	26	22	6	2	1	0	0	0	1	10	14	24	9	11
16	24	17	5	1	0	0	0	0	1	8	18	23	8	12
19	24	16	4	1	0	0	0	0	1	11	22	21	8	14
22	22	17	6	1	0	0	0	0	1	11	24	24	8	11
ALL HRS	26	22	10	4	2	1	0	1	6	14	18	24	17	17

VENICE, ITALY

END

DATE

FILMED

28R